André Luiz Monezi Andrade
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Fernanda Machado Lopes · Bruno de Oliveira Pinheiro
Richard Alecsander Reichert *Editors*

Psychology of Substance Abuse

Psychotherapy, Clinical Management and Social Intervention

Springer

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Part I
Introductory Aspects

Chapter 1
Psychopharmacology of Drugs of Abuse

Flávia Zacouteguy Boos, Núbia Broetto, and Roberta Bristot Silvestrin

Introduction

How do drugs act in the human body? Why do they affect the human brain? This chapter aims to help you answer these questions while reading the next pages. However, it is necessary for you to remember (or learn from today) some basic facts of biology and pharmacology.

Remember the following:

- Human tissues are different because they are composed of distinct cell populations.
- Distinct cellular morphology and function are basically due to the presence of different sets of proteins.
- Drugs are exogenous substances (produced outside the body) that exert effects on our organism by binding into different cellular and molecular targets present in one or more tissues (i.e., they find "fittings" in molecules that form the body).
- Psychoactive drugs alter an individual's behavior because their target molecules are present in the brain.
- Drugs of abuse are a group of psychoactive substances that favor their repeated use and can lead to substance use disorders (abuse and addiction).

In this chapter, you will read about the pharmacokinetic and pharmacodynamic aspects of different drugs of abuse. Pharmacokinetics refers to "what the human body does with a drug," in other words, how a drug is absorbed, distributed,

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metabolized, and eliminated. Meanwhile, pharmacodynamics refers to "what the drug does with the human body," that is, what are the receptors stimulated or inhibited by a drug, their localization, and what happens when a drug acts on them.

Brain function is based on *communication* between different groups of neurons. For this to happen, neurons send messages in the form of chemical substances called neurotransmitters (serotonin, dopamine, noradrenaline, glutamate, γ-aminobutyric acid, or GABA, among others), which will bind to specific receptors found in the cell that should receive the message. There are, then, a variety of receptors in the human brain: serotoninergic, dopaminergic, glutamatergic, and so on. Besides the receptors, other families of proteins involved in neurotransmission are also targets of drugs of abuse. As an example, we can mention transporters (responsible for the reuptake of neurotransmitters), synthetic or metabolic enzymes, and proteins involved in the storage and release of neurotransmitters.

By acting on one or more types of synapses, different drugs of abuse will cause *stimulation, depression, or disturbance in general brain function.* Based on this, different drugs of abuse can be grouped into specific categories as follows (SENAD, 2020):

Stimulants: cocaine/crack, amphetamines, caffeine, nicotine.
Depressants: ethanol, benzodiazepines, opioids, γ-hydroxybutyric acid (GHB), inhalants (glue, poppers, solvents, aerosol sprays).
Hallucinogens or psychedelics: lysergic acid diethylamide (LSD), dimethyltryptamine (DMT), psilocybin, mescaline, marijuana, methylenedioxymethamphetamine (MDMA).

Most of the drugs mentioned above, besides acting more or less intensely in specific regions of the brain, activate the so-called reward system, which is a set of brain structures that interconnect the midbrain with cortical and limbic regions and use dopamine as the main neurotransmitter – the mesocorticolimbic dopaminergic system. It is a primitive system that functions to reinforce behaviors that are needed for survival by providing pleasure and a drive toward the target behavior. The overstimulation of the reward circuit induces dopaminergic neurons in the mesencephalic ventral tegmental area to increase dopamine release in structures such as the nucleus accumbens, which plays a key role in establishing addictive behaviors. This system also sends projections to the prefrontal cortex, influencing executive functions, such as risk assessment, outcome evaluation, critical judgment and, therefore, decision-making. The drug-induced increase in dopamine transmission in the reward system triggers the pleasure that many users report during early use. The involvement of the mesocorticolimbic dopaminergic system in the development of substance use disorders is well-documented in scientific literature (Di Chiara & Imperato, 1988; Volkow & Morales, 2015).

Stimulants

Excitatory synapses are crucial for the various functions of the nervous system, such as maintenance of wakefulness, feeling of well-being and pleasure, cognitive function, and body movement. These functions are triggered by the activation of different neurotransmitter systems that include glutamatergic, dopaminergic, noradrenergic, and serotoninergic pathways. The neurotransmitters involved in these pathways generally increase the activity of the CNS by binding to receptors present on the postsynaptic neuron.

The increased CNS activity induced by the stimulation of excitatory neurotransmission can lead to acceleration of motor behavior, speech, and thought, besides increasing the risk of seizures and, rarely, causing death. Depending on the drug, CNS excitation that follows stimulant use may be triggered by different mechanisms. This chapter will then focus on the psychopharmacological aspects of cocaine/crack and amphetamines.

Cocaine/Crack

Cocaine is an alkaloid extracted from coca (*Erythroxylum coca*) leaves, a native plant of South America. The chemical processing of macerated leaves originates cocaine base, which may be transformed into cocaine hydrochloride (powder), crack, and *merla.*

The intensity and duration of cocaine effects will depend on the way it is administered and absorption routes, which may vary. When taken orally (chewed leaf or tea) and snorted (hydrochloride powder), cocaine is absorbed by the gastrointestinal and nasopharyngeal mucosa, respectively. The onset of effects with intranasal use – which is the preferred route – occurs within 5 minutes and persists between 60 and 90 minutes (Zimmerman, 2012).

Some people choose injecting cocaine and, in this case, its actions start within the first 60 seconds and remains about 20 to 30 minutes. When crack is used, the time is even shorter since its action starts from 3 to 5 seconds after smoking. Due to the extensive surface area and vascularization of the lung, crack is rapidly absorbed, and its effects only persist between 5 and 15 minutes. This, in turn, may lead to repeated use when the user wants to maintain the desired effects, also referred as "high" (Zimmerman, 2012). Long-lasting action is associated with smaller peak plasma concentration, which takes longer to be reached, as well as it takes longer to decay. In general, routes of administration that cause short-term effects are more addictive than those which elicit prolonged action (Swift & Lewis, 2009).

Following absorption, cocaine is widely distributed throughout the body and rapidly metabolized by plasma and liver cholinesterases via cytochrome P450, giving it a short half-life of 0.7 to 1.5 hours (Zimmerman, 2012). The main cocaine metabolites are benzoylecgonine and ecgonine (Coe, Phipps, Cone, & Walsh, 2018; Drake

& Scott, 2018), which are excreted in urine. Benzoylecgonine can be found in urine 2 to 5 days after cocaine use (O'Brien, 2018) and, due to its greatest amount, its detection in urine and blood is targeted by toxicological tests (Jones, 2019). At the same time, cocaine itself appears in varying quantities from 5% to 20% in its unchanged form in the urine (Freye, 2010).

Cocaine and ethanol are simultaneously used by some people and lead to the formation of the active metabolite called cocaethylene, in the liver. The longer half-life of cocaethylene, which is about 2.5 hours, may lengthen the euphoric effects of cocaine (Zimmerman, 2012). It is worth noting that this association is considered the most common cause of death in cocaine users (Swift & Lewis, 2009).

Cocaine has complex effects on the brain. In general, the main mechanism of action is the increase in monoaminergic transmission, such as those mediated by dopamine, noradrenaline, and serotonin. By blocking monoamine reuptake, cocaine increases neurotransmitter concentration in the synaptic cleft, thereby potentiating its actions on postsynaptic neurons. It is suggested that cocaine acts more selectively on dopamine reuptake, increasing its availability in the synaptic cleft and leading to enhanced signaling through dopaminergic receptors 1 and 2 (D1 and D2), which activate intracellular signaling pathways with short- and long-term impact on neural function (Frazer, Richards, & Keith, 2018).

The main action of cocaine targets the dopaminergic neurons of the mesocorticolimbic pathway, mentioned before. Reward system stimulation through nucleus accumbens plays a central role in reinforcing drug-seeking behavior, and this stimulation is even more pronounced when effects are short-lasting, such as when cocaine is injected, or crack is used. Besides that, prefrontal cortex may be hypofunctional in drug addicts or people with other psychiatric comorbidities, thereby affecting decision-making (Frazer, Richards, & Keith, 2018).

Initially, the use of cocaine can cause euphoria and pleasure due to the potentiation of monoamine transmission. Other effects include increased alertness, thought acceleration, impaired judgment, agitation, tachycardia, nausea or vomiting, and appetite inhibition. Dose variation and psychological factors may induce mood fluctuation (euphoria/bad feelings), deliriums, hallucinations, and paranoia.

In long term, repeated blockage of the reuptake system caused by chronic abuse of cocaine leads to monoamine depletion, which can result in various psychiatric symptoms and disorders, such as insomnia, impulsivity, depression, anxiety, aggressiveness, addiction, and withdrawal symptoms (Oliveira & Dinis-Oliveira, 2018). In high doses, cocaine may cause seizures, cardiac arrhythmias, and respiratory arrest and may even lead to death.

Amphetamines

Amphetamines and related compounds (structural analogues) are synthetic drugs with a wide variety. Some of them have therapeutic properties and may be prescribed for attention deficit hyperactivity disorder (ADHD), obesity, and

narcolepsy, while others are illegally produced and sold. Methamphetamine, also known as "ice" or "crystal", is a prohibited amphetamine which offers great risk of drug use disorders that is considered a public health problem in the United States, but not widespread in Brazil.

Due to the substantial increase in medical prescriptions and indiscriminate use of therapeutic amphetamines in Brazil, these drugs were prohibited by the Brazilian Health Regulatory Agency (ANVISA) in 2011 with the only exception to lisdexamfetamine (LDX) and methylphenidate, which are used in the treatment of ADHD. More recently, in 2017, Brazilian Congress approved the production, marketing, and consumption of the anorexigenic drugs amfepramone, fenproporex, mazindol, and sibutramine.

Amphetamines and related compounds (except mazindol) are classified as β-phenylethylamines and are usually taken orally by tablets, although they can be inhaled, smoked, or injected in cases of recreational use. Amphetamines of medical use are well-absorbed in the gastrointestinal tract, metabolized in the liver, and eliminated mostly in urine. Due to the variety of amphetamines and their specificities regarding biotransformation, we have chosen LDX (Venvanse®), methylphenidate (Ritalin®), and fenproporex (Desobesi®) to be described in this chapter.

Lisdexamfetamine (LDX) is a prodrug *d*-amphetamine, absorbed in its inactive form mainly by the peptide transporter-1 in the small intestine into systemic and portal circulation. LDX biotransformation depends on red blood cells peptidases, which hydrolyze it to *l*-lysine and active *d*-amphetamine in the portal circulation (Hutson, Pennick, & Secker, 2014; Pennick, 2010). After ingestion, the conversion of LDX into *d*-amphetamine occurs gradually, in approximately 1.5 hours. Thus, *d*-amphetamine effects on CNS only begin after the molecules have crossed the blood-brain barrier and last from 1.5 to 13 hours in children and 2 to 14 hours in adults. Due to its prolonged action, no more than a daily dose of LDX is indicated in the treatment of ADHD. The excretion occurs predominantly in urine and about 40 to 45% in the form of *d*-amphetamine (Krishnan, Pennick, & Stark, 2008).

Unlike LDX, methylphenidate has less prolonged action. It is a racemic compound of the enantiomers *d*-amphetamine and *l*-amphetamine, which is absorbed in its active form in the gastrointestinal tract. Methylphenidate is primarily transported to the portal circulation but also to nonspecific regions and, after increasing its serum levels, it binds mainly to brain tissue (Yang, Duan, & Fisher, 2016). Drug metabolism occurs via hepatic de-esterification by carboxylesterase 1A1 to form ritalinic acid, and between 60% and 80% of the dose is excreted as this metabolite. The peak concentration of methylphenidate is reached at about 2 hours after administration, and its effects are shorter when compared to other amphetamines, lasting up to 4 hours in the case of Ritalin® (Wenthur, 2016).

Fenproporex, which is structurally similar to amphetamine, is one of the first pharmacological agents used as an anorectic drug (Paumgartten, Pereira, & Oliveira, 2016). From absorption into the gastrointestinal tract, biotransformation occurs presystemically, through metabolism by intestinal microbiota, first pass effect, or a combination of both processes (Kraemer, Theis, & Weber, 2000). Fenproporex metabolism occurs by N-dealkylation by cytochrome P450 in the liver, and it yields

14 metabolites, with amphetamine being the one in greater amounts. Peak concentrations are reached in 1 to 2 hours, and it is hypothesized that its action on hypothalamus is related to the inhibition of appetite. The half-life of fenproporex is 4 to 6 hours, and it is excreted in urine, largely as amphetamine. Since amphetamines lead to increased aerobic muscle capacity (Mariz, 2004; Nikolopoulos, Spiliopoulou, & Theocharis, 2011), alertness, and decreased fatigue (Docherty, 2008), which could be a competitive advantage to athletes, fenproporex, LDX, and methylphenidate have been prohibited in official competitions and are controlled by the World Anti-Doping Agency (WADA).

Amphetamines increase the level of brain excitability through complex interaction with monoamine systems. In general, these drugs act by blocking the reuptake of monoamines and inducing efflux of monoamines by reverse transport. This leads to an increase in monoamines availability in the synapse, thereby potentiating dopaminergic, noradrenergic, and serotonergic neurotransmission. It should be noted that methylphenidate, LXD and fenproporex have less effect in serotonergic pathways (Sitte & Freissmuth, 2015).

As other psychostimulants, amphetamines can increase attention, wakefulness, and energy, as well as they decrease fatigue and appetite. Therefore, these drugs are abused by different professional classes who seek to extend working hours and spend more time awake. An example is the consumption of fenproporex, popularly known as *rebite*, by professional drivers in Brazil.

Amphetamines intensify the central release of noradrenaline with consequent sympathomimetic action, such as increase in blood pressure, mydriasis, tremor, sweating, and restlessness, which are classical signs of stimulant intoxication. When the effects vanish, the user may present signs of fatigue and anxiety, and the abuse of high doses of amphetamine can cause stereotypic movements, seizures, and psychosis (De La Torre et al., 2004).

Depressants

Both excitatory and inhibitory pathways are needed for the proper functioning of the brain. Since the neurons are never "switched off" or "disconnected," the balance between excitatory and inhibitory neurotransmitters is essential to adjust the degree of activity of different brain regions. Different areas of the brain are more or less active according to the type of behavior we are performing. For example, neurons of the primary motor cortex will increase their activity when we are moving, as well as hippocampal neurons will fire when we need to locate ourselves spatially. In this context, GABA is the main inhibitory neurotransmitter in our brain, and it acts by decreasing the excitability of postsynaptic neurons that contain GABAergic receptors.

The mechanism by which the depressants discussed here reduce general functioning of the CNS is based on their binding to GABAergic receptors. $GABA_A$ receptors are proteins that have a channel shape and form a pore in the neuronal

membrane. When GABA binds to $GABA_A$ receptors, these channels open and allow chloride to enter and hyperpolarize the postsynaptic neuron and thus decrease the excitability of the target cell (i.e., inhibiting it). Both ethanol and benzodiazepines will then reduce CNS activity by potentiating the inhibitory action of GABA when it binds to its receptor.

Ethanol

Ethanol – the alcohol which is found in alcoholic beverages – is a small, water-soluble molecule that is rapidly absorbed by the mucosa of the stomach and duodenum, allowing its maximum blood concentrations to be reached, in general, between 20 minutes and 1 hour after ingestion. The absorption rate can, however, be influenced by several factors, such as the alcohol concentration of the beverage and aeration (e.g., used in sparkling wines). The presence of food in the stomach, especially carbohydrates, slows down gastric emptying and, therefore, slows absorption (Mitchell, Teigen, & Ramchandani, 2014; Paton, 2005).

Ethanol is rapidly and widely distributed in the body, mainly in fat-free body mass (brain, muscles, liver), where it is delivered proportionally to the water content of the tissues. Women may have a higher peak concentration when compared to men after ingesting an equivalent dose due to a lower total body water content, less lean mass, and also differences in first-pass metabolism. Blood alcohol concentration (BAC) also varies with menstrual cycle and concomitant use of other drugs such as antihistamine medications (Paton, 2005).

Since ethanol easily crosses biological membranes and the brain receives a large proportion of total blood flow, the concentration of ethanol in the CNS increases rapidly. More than 90% of the alcohol consumed is metabolized in the liver, and almost all the rest is eliminated in its unchanged form through urine and lungs (this is why it is detected by the breathalyzer). A typical adult can metabolize 7 to 10 g of alcohol per hour, the equivalent of approximately a standard drink (350 mL of beer with 5% alcohol content, 140 mL of wine with 12% of alcohol content, or 40 mL of distilled spirits with 40% alcohol content) (Cederbaum, 2012; NIH, 2020).

The metabolism of ethanol consists of its conversion into acetaldehyde through enzymatic reactions that occur mainly, but not exclusively, in the liver. Alcohol dehydrogenase (ADH) produces acetaldehyde, which in turn is converted to acetate by acetaldehyde dehydrogenase (ALDH), and both reactions result in a second product, reduced nicotinamide adenine dinucleotide whose excess modifies the speed of other metabolic pathways. This metabolic imbalance contributes both to lactic acidosis and hypoglycemia, which often accompany acute alcohol intoxication, and to metabolic disorders resulting from chronic ethanol consumption (Paton, 2005).

The acute changes induced by ethanol are rapid and reversible and cease when concentrations of ethanol, acetaldehyde, and acetate decrease. The concentrations of these metabolites and the time they remain in the body may vary according to

polymorphisms in genes encoding ethanol metabolic enzymes. Genetic variations in these enzymes are then associated with the risk of developing alcohol use disorders (Ramoz & Gorwood, 2018). Specific variations in ADH and ALDH genes, for example, may slow the removal of acetaldehyde, which is a toxic compound. These variations are most frequent in Chinese, Japanese, and Korean and are associated with lower rates of alcoholism in these populations (Edenberg & McClintick, 2018; Li, Zhao, & Gelernter, 2012; Luczak, Glatt, & Wall, 2006).

The second major pathway for alcohol metabolism is the microsomal ethanol oxidizing system (MEOS). This system is also involved in metabolizing other drugs, and when its activity is induced by chronic ethanol consumption, there is an elevated generation of toxic by-products from cytochrome P450 reactions (a MEOS component) since the metabolism of those other substrates is also increased.

Once in the brain, ethanol exerts its effects on different neurotransmitter systems (Costardi et al., 2015), affecting cortical and subcortical areas (such as the striatum) as well as the hippocampus, amygdala, and cerebellum (Harrison et al., 2017). However, its action on $GABA_A$ receptors, which potentiates GABA synapses, is the most studied mechanism of action. Ethanol also slows down CNS activity, reducing glutamate actions on NMDA-type receptors, and it affects adrenergic, cholinergic, serotonergic, opioidergic, and peptidergic neurotransmission (Anderson & Becker, 2017; Förstera, Castro, Moraga-Cid, & Aguayo, 2016; Rao, Bell, Engleman, & Sari, 2015).

Ethanol effects on the CNS are proportional to the BAC, and that is why their manifestations vary from "inhibiting inhibition" (something like "losing the brake") with initial doses to a general depression at high blood concentration that can result in coma and respiratory failure. The ingestion of moderate amounts of ethanol (BAC of 50 mg/dL) can lead to anxiety symptoms and loss of inhibitory control. At 150 mg/dL, signs of moderate drunkenness already appear. From 250 mg/dL on, important intoxication is observed and manifested as motor incoordination, slurred speech, labile humor, and uncontrollable emotionality. Changes in memory and inappropriate behavior may occur, in addition to nausea and vomiting as a result of gastric irritation. In cases of more severe intoxication, the function of the CNS becomes progressively depressed and finally reaches sedation. Blood levels above 350 mg/dL can lead to coma and, as a result of respiratory depression, the safety margin between ethanol concentrations producing anesthetic or fatal effects is difficult to be determined (Masters, Trevor, & Katzung, 2017; Mihic, Koob, Mayfield, & Harris, 2018). It is worth noting that the relationship between BAC and ethanol effects is influenced by previous experience with alcohol and can be quite different in chronic alcoholics due to their tolerance to ethanol (Paton, 2005).

Benzodiazepines

Benzodiazepines (BZD) are a group of more than 20 drugs that act on the CNS and are named after their molecular chemistry. Because of their depressant actions, BZD have wide clinical utility, being prescribed to treat anxiety, insomnia, sleep disorders, epilepsy, and neural induced spasticity. They are also used as muscle relaxants and preoperative drugs due to their amnesic and anxiolytic actions. Among the best-known examples are diazepam (Valium®), midazolam (Dormonid®), clonazepam (Rivotril®), and alprazolam (Frontal®). Despite the scarcity of data, the abuse of BZD in Brazil has been documented and seems to be associated with specific populations, such as women and adolescents (Fegadolli, Varela, & Carlini, 2019; Kapczinski et al., 2001; Opaleye, Ferri, Locatelli, Amato, & Noto, 2014; Souza, Opaleye, & Noto, 2013).

Most BZD are administered orally and are completely absorbed into the gastrointestinal tract without undergoing biotransformation (clorazepate is an exception). The absorption rates of these drugs differ because they depend on several factors, including lipophilicity of the substance. In the case of diazepam, it is rapidly absorbed, reaching its peak concentration in 1 hour after oral administration in adults. Alprazolam, chlordiazepoxide, and lorazepam have intermediate rates of absorption, reaching peak plasma concentration in 2–4 hours after oral administration (Wishart et al., 2006).

BZD and its metabolites bind to proteins and are distributed in the body, accumulating preferably in fat-rich tissues, such as the nervous system and adipose tissue. The speed of different BZD excretion depends on the rate of their metabolism, which is in turn determined by the hepatic microsomal systems. Most of them are extensively metabolized by cytochrome P450 in the liver, but the speed can vary according to specific compounds, and different pathways may be needed. BZD excretion occurs almost entirely through the urine, and some of them, such as diazepam, produce active metabolites that can lengthen the effects (Griffin, Kaye, Bueno, & Kaye, 2013).

Considering the half-life (t1/2), BZD can be grouped as follows:

- Ultrashort-acting agents, remimazolam (t1/2 ~ 1 h*)[1] (Whizar-Lugo, Garnica-Camacho, & Gastelum-Dagnino, 2016).
- Short-acting agents (t1/2 < 6 h), including midazolam, triazolam (t1/2 ~ 2 h), and eszopiclone (t1/2 ~ 5–6 h).
- Intermediate action agents (t1/2 ~ 6–24 h), including estazolam and temazepam.
- Long-acting agents (t1/2 > 24 h), including flurazepam, diazepam, and quazepam.

Like ethanol, BZD have a high-affinity binding site on $GABA_A$ receptors, increasing the binding and action of GABA on its receptor. The $GABA_A$ receptor is

[1] Because it is a new drug, several studies are still being conducted using remimazolam, whose half-life depends on several factors but is much shorter than that of midazolam, for example (Rex et al., 2018).

a pentameric complex, whose glycoproteic subunits may vary, and, in addition to the GABA binding site, it has a binding pocket for BZD. The heterogeneity of $GABA_A$ receptors resulting from the combinations of different subunits generates, at least in part, the pharmacological diversity of BZD effects (Mihic, Mayfield, & Harris, 2018). Different effects profiles will also be determined by the affinity of BZD for receptors that are more or less concentrated in specific regions of the CNS. Those receptors concentrated in the cortex, thalamus, and cerebellum, for example, will mediate sedation, anterograde amnesia, and anticonvulsant effects of those drugs that bind to them. Meanwhile, receptors that mediate anxiolytic and myorelaxant effects are located in the limbic system, motor neurons, and dorsal horn of the spinal cord (Griffin et al., 2013).

Regarding sedative and hypnotic effects of BZD, increasing doses of these drugs lead to sedation that progresses to hypnosis and to stupor. The abuse of BZD alone will unlikely lead to death or some serious pathology. However, these drugs are often used concomitantly with ethanol or other substances (Schmitz, 2016), and the combination of alcohol and BZD may cause respiratory failure and death due to the synergistic effect of these drugs.

High doses of BZD can cause daytime sleepiness, dizziness, increased reaction time, deficit of motor coordination, impaired mental and motor functions, and confusion (Mihic, Mayfield, & Harris, 2018). Therefore, they can impair activities that require attention and quick reactions when used without prescription.

People who use high doses of BZD usually need hospital detoxification. In general, the abuse of BZD is part of a combined addiction that often involves alcohol, opioids, and cocaine (Mihic, Mayfield, & Harris, 2018). As it was said before, when alcohol and BZD are used together, they have stronger depressant effects due to the synergistic action of their combination.

Hallucinogens

Hallucinogenic drugs are so-called because they qualitatively alter (disturb) the functioning of the CNS, modifying the way we perceive reality, our thoughts, and emotions. Throughout the twentieth century, these substances were called psychotomimetic and hallucinogenic because of their psychotic and hallucinogen effects. However, these terms have been criticized for carrying strong social stigma and because they refer to the less frequent symptoms caused by the usual doses. Nowadays, these drugs are commonly called psychedelics, once they bring mind-manifesting capability and/or entheogens, because they favor spiritual experiences. These terms have recently been applied to *classic psychedelics* with stronger effects on altering consciousness, such as LSD, DMT (component of the ayahuasca brew), psilocybin (found in magic mushrooms such as *Psilocybe cubensis)*, and mescaline (present in cacti such as Peyote and San Pedro) (Nichols, 2016). Other hallucinogenic substances have been called *atypical psychedelics* and include marijuana, MDMA, dissociative drugs such as ketamine and phencyclidine, muscarine (present

in the *Amanita muscaria* mushroom), ibogaine, and salvinorin (Calvey & Howells, 2018).

Because their molecules resemble serotonin, classic psychedelics activate 5-HT_2 serotonergic receptors (5-HT_{2A} subtype has been the most cited) causing psychedelic effects. The brainstem raphe nuclei are the main source of serotonin in the CNS, and they send neuronal projections to the different brain regions, such as the thalamus, cerebral cortex (prefrontal, visual, somatosensory association), amygdala, hippocampus, cerebellum, and others. This system is involved in sensory perception, mood, and emotional regulation and in cognitive and motor functions. Unlike other drugs of abuse, *classic psychedelics* do not directly activate the reward dopamine system (Nichols, 2016).

Having in mind the particularities of each of those drugs, the alteration of consciousness involves important changes in sensory perception (seeing kaleidoscopic images, distortion of auditory stimuli), synesthesia (overlapping of sensory modalities such as hearing colors), mood alterations, thinking, emotional processing, and memories. These alterations result in a different perception of reality, including the notion of self, and can both cause confusion and favor insights. Anxiety and paranoia are common effects, and psychotic symptoms (usually transient) may appear, all of them under modulation by the context of use (the environment and interaction with other people, for example). Although they are known as "heavy drugs" when considering the risks they offer, there is little evidence that *classic psychedelics* – LSD, psilocybin, mescaline, and ayahuasca/DMT – are addictive because they are not compulsively used and do not induce withdrawal syndrome (Canal & Murnane, 2016; Rucker, Iliff, & Nutt, 2018). Moreover, psychedelic drugs have gained attention in recent years due to their therapeutic potential. Stigmatized substances such as marijuana and its components (THC and cannabidiol), MDMA, ketamine, psilocybin, and ibogaine, have been the target of research to treat epilepsy, chronic pain, post-traumatic stress disorder, depression, and drug addiction, among other medical and psychiatric conditions (Nutt, Erritzoe, & Carhart-Harris, 2020).

Atypical psychedelics act mainly in other neurotransmission systems. As an example, the dissociative substance ketamine, known as special k and used for depression, inactivates NMDA-type glutamate receptors. Plant-derived substances salvinorin A and ibogaine, which are found in *Salvia divinorum* and the African plant Iboga, respectively, act on multiple targets, including opioid receptors (Litjens & Brunt, 2016; Sellers, Romach, & Leiderman, 2018). Marijuana and MDMA will be addressed in more detail in the sequence.

Marijuana

Marijuana or *cannabis* is a plant that has more than 100 phytocannabinoids, with delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD) being the best known and studied. While THC induces the psychoactive effects following *cannabis* use, CBD has the greatest therapeutic potential, and of particular interest is the fact it has

no reinforcing effects. Medical properties of CBD include analgesia, neuroprotection, anticonvulsant, antiemetic, and antispasmodic effects (Lucas, Galettis, & Schneider, 2018). Because of varying species, strains, and cultivation methods, different proportions and concentrations of THC and CBD may be found in the drug, therefore causing different effect profiles.

Although c*annabis* is usually smoked or inhaled through vaporizers, it can also be eaten. The pharmacokinetic profile is similar when it is smoked or inhaled, and THC and CBD are rapidly absorbed by the lungs. Both compounds are primarily distributed to vascularized tissues, such as the brain, which is responsible for the reinforcing properties of marijuana and its abuse and addictive potential. Because of its lipophilicity, most THC is combined to plasma proteins in order to be distributed throughout the body. When smoked, both cannabinoids reach their peak plasma concentration between 3 and 10 minutes, allowing the user to regulate its consumption according to the effects. When *cannabis* is orally consumed, the plasma peak of THC and CBD is much longer (around 120 minutes), and their bioavailability is shorter when compared to smoking (first pass metabolism; Grotenhermen, 2003).

The metabolism of THC occurs predominantly in the liver, via cytochrome P450, which produces the active metabolite 11-hydroxy-THC and later 11-nor-9-carboxi-THC, which is inactive. Extrahepatic metabolism occurs in the small intestine and brain, also by cytochrome P450, and excretion occurs in feces and urine. Due to its lipid structure, THC can accumulate in the adipose tissue of chronic users and can be gradually released into the bloodstream for several weeks after consumption (Amin & Ali, 2019). For similar reasons, THC crosses the placenta and is available in breast milk, and its use during pregnancy and breastfeeding is discouraged, since changes have been shown in the offspring of women who used *cannabis* during pregnancy and also because animal models provides clear evidence of developmental abnormalities (Roncero et al., 2020). The metabolism of CBD is similar to THC, since it depends on hepatic cytochrome P450 and generates metabolites that are excreted in feces and urine.

Reward system stimulation by acute THC use is controversial in human neuroimaging studies, which point to milder effect of marijuana when compared to stimulant drugs (Bloomfield, Ashok, Volkow, & Howes, 2016). THC is a partial agonist of cannabinoid type 1 and 2 receptors (CB1 and CB2) with its psychoactive and pain regulatory actions been mediated by CB1. CBD acts on the same receptors, although with less affinity for CB1, and acts as a negative allosteric modulator reducing THC effects on this receptor (Lucas et al., 2018). In other words, the presence of CBD in marijuana counterbalances some effects of THC, and it has been proposed that higher concentrations of CBD may offset some of the acute and long-term side effects of THC, such as anxiety, psychotic symptoms, potential for abuse, and cognitive impairment (Bloomfield et al., 2019; Ferland & Hurd, 2020). CB1 are inhibitory presynaptic receptors and are present mainly in CNS areas involved with executive and cognitive functions, emotional and appetite regulation, reward detection, and motor behaviors, such as the prefrontal cortex, hippocampus, amygdala, hypothalamus, nucleus accumbens, basal ganglia, and cerebellum. When a presynaptic neuron is hyperactivated, the postsynaptic neuron responds to the

overstimulation releasing endocannabinoids that act retrogradely on CB1, thereby reducing the activity of the presynaptic cell. CB1 is found in glutamatergic and GABAergic neurons present in the different brain regions, and therefore the endocannabinoid system finely regulates the excitatory/inhibitory balance of a large part of the brain. CB2 receptors are mainly found in the peripheral tissues and immune cells, although they are also present in neurons but in small amounts.

The common acute effects of marijuana and its derivatives are red eyes, dry mouth, increased appetite, and enhanced libido. In addition, there are changes in time perception, thoughts, emotional processing, impaired attention, and memory consolidation, besides confusion. Marijuana alters the sense of reality and can cause anxiety and paranoia and induce psychotic symptoms in healthy people. These effects are usually transient and more frequent in those with schizoid personality traits. Using marijuana is a risk factor for people who are predisposed to schizophrenia, since the drug can trigger the onset of the disorder (Bloomfield et al., 2019). Chronic use can cause addiction, attention deficits, as well as learning and memory impairments, which seem to be reversible within a few months of abstinence (Broyd, Van Hell, Beale, Yücel, & Solowij, 2016). Cannabis use among adolescents is inadvisable because the prefrontal cortex, which is involved in risk assessment and decision-making, is still maturing, and early use is associated with the development of *cannabis* use disorders (Ferland & Hurd, 2020). Marijuana potentiates the depressant effects of sedative hypnotics, and concomitant alcohol use increases plasma THC levels and perceived subjective symptoms (Lucas et al., 2018).

MDMA

Like amphetamines, MDMA is a β-phenylethylamine. It was first synthesized in 1912 and became popular at electronic music festivals from the 1980s (Karch, 2011). Its therapeutic potential in the treatment of post-traumatic stress disorder (PTSD) has been studied in clinical trials, where it was combined with psychotherapy in a controlled setting. The MDMA-assisted psychotherapy is expected to be regulated by the Food and Drug Administration (FDA) in the United States by 2022 (Thal & Lommen, 2018).

MDMA is commonly called ecstasy or molly. It is usually taken as colored tablets or capsules with different patterns (like brands and logos) and can also be found in the form of crystal, which is usually left on the mouth or diluted in water. Some people prefer to snort it and rarely inject it. It is important to keep in mind that is not rare to find other substances instead of MDMA and that this is true to every drug. Sometimes there is no MDMA on the ecstasy pill, or it has adulterants such as methylenedioxyethylamphetamine (MDEA) and methylenedioxyamphetamine (MDA), amphetamines, methamphetamine, ephedrine, and pseudoephedrine, which can be even more dangerous than MDMA itself.

After absorption into the gastrointestinal tract, MDMA effects start to be noticed between 20 and 60 minutes, and the peak plasma concentration is reached in

approximately 2 hours. It is metabolized mainly in the liver by isoenzymes of P450 cytochrome (Kalant, 2001), and the catechol-O-methyltransferase (COMT) breaks down the by-products of this drug. MDMA is metabolized into methylenedioxyamphetamine (MDA), which in turn is broken down into dihydroxyamphetamine (HHA). In parallel, MDMA can also be converted to dihydroxymethamphetamine (HHMA), and this turns into hydroxymethoxymethamphetamine (HMMA). The by-products HHA and HMMA can finally be biotransformed into hydroxymethoxyamphetamine (HMA; Xavier et al., 2008). MDMA is a substrate and, at the same time, an inhibitor of an isoenzyme of cytochrome P450, even at relatively low doses. In other words, the metabolism of MDMA at higher doses is slower, and drug peaks are more rapidly reached in the brain and blood (Papaseit, Torrens, Pérez-Mañá, Muga, & Farré, 2018). As its half-life is approximately 8–9 hours, the excretion of 95% of the substance will only be reached about 40 hours after its consumption. This may be an explanation for the adverse effects that remain within 2 days of use (Kalant, 2001). In addition, since the metabolite MDA is also psychoactive, it causes the effects to remain longer than the MDMA itself in the body. The excretion is mainly by urine, and the metabolites may undergo glucuronidation and sulfation (Xavier et al., 2008).

MDMA is considered a psychedelic amphetamine because it has stimulating and psychedelic (hallucinogenic) effects. It acts by increasing the availability of serotonin, noradrenaline and, to a lesser extent, dopamine, which resembles the stimulant effects of amphetamines, while it also activates 5-HT_{2A} receptors like classical psychedelics, inducing subtle visual and auditory distortions. The increase in serotonin, which is the main responsible for the effects of MDMA, occurs by two distinct mechanisms: (1) by increasing serotonin release and (2) by blocking serotonin transporters, inhibiting its reuptake. The increase in noradrenaline and dopamine occurs due to similar mechanisms, but dopamine is released in smaller amounts (White, 2014). Studies indicate that depending on the MDMA isomer, subjective effects may be more stimulant-like or more related to psychedelics (Kalant, 2001).

Doses usually range from 50 to 150 mg (Kalant, 2001). The desired subjective effects commonly include relaxation or higher energy and agitation; positive emotions such as euphoria, well-being, and pleasure; increased propensity to touch, not necessarily sexual; enhanced libido; and prosocial behaviors, such as increased levels of empathy, a sense of closeness, and openness to talk with other people. These prosocial effects seem to be mediated by increased oxytocin hormone release, while increased energy and resistance to fatigue are related to an increase in circulating cortisol, which is released in stressful situations (White, 2014). Studies indicate that MDMA reduces the feeling of fear and anxiety, which is consistent with reduced activity in the amygdala (Papaseit et al., 2018). The reduction in fear/anxiety levels combined with prosocial behaviors has been proposed to explain the effects of using MDMA-assisted psychotherapy to treat PTSD, in order to favor the bond with the therapist and the confrontation of trauma, allowing a rereading of the experience that caused it (Thal & Lommen, 2018).

The sympathomimetic effect of MDMA produces quite dangerous physiological effects including tachycardia, increased blood pressure, and a significant increment

in body temperature (hyperthermia/hyperpyrexia). Along with hyperthermia, the electrolyte imbalance due to the drop in blood sodium levels (hyponatremia) is another risk factor related with this drug, which may be worsened by excessive water intake and urinary retention that are associated with the context in which MDMA is used. These effects are more pronounced in women, when high doses are consumed, and when it is combined with other substances or intense physical activity, such as in parties. In extreme cases, complications can lead to cerebral edema, seizures, renal and hepatic failure, as well as rhabdomyolysis, leading to death (Papaseit et al., 2018).

Other milder but unwanted effects such as bruxism and trismus – due to jaw clenching – muscle stiffness, loss of appetite, and insomnia are common. The adverse effects on mood emerging days after the use of MDMA, such as depressed mood, result mainly from neuronal serotonin depletion and inhibition of its synthetic enzyme, tryptophan hydroxylase, for a prolonged time (White, 2014). Chronic MDMA-induced neurotoxicity has been documented, and it points to long-term losses in serotonergic neurotransmission in different parts of the brain, especially cortical regions (Benningfield & Cowan, 2013).

Final Considerations

This chapter has shown that drugs of abuse act in various brain neurotransmission systems, thereby altering perception, emotion, cognition, and behavior. Pharmacokinetic and pharmacodynamic profiles of each drug are determinant in understanding how body and substance interact, whether in recreational or therapeutic use. Although drugs of abuse, particularly illicit ones, are sometimes exclusively related to individual and social harm, we cannot ignore the therapeutic potential of some of those substances. If on the one hand their chronic consumption can lead to substance use disorders in vulnerable/susceptible individuals, on the other hand they can help treating psychiatric disorders or diseases such as in the case of benzodiazepines, amphetamines, MDMA, and cannabinoids. A question then arises: are they drugs of abuse or medication? More than the isolated pharmacological properties, the pattern of use and the reasoning toward rational/therapeutic use, based on scientific evidence, seem to make a better distinction between these concepts.

In this circumstance, it may be interesting for professionals to be aware of some particularities associated to some of those drugs, such as the fact that cocaine and crack overstimulate the reward system, which is associated with the addictive potential of these drugs, while the classic psychedelics do not directly activate this system and do not generate addiction. In this context, detailed information has been provided regarding psychedelic drugs for two reasons: (1) they have been receiving increasing attention from users, professionals, and researchers; and (2) the available literature on psychedelics is more scarce compared to stimulants and depressants. Thus, we have tried to offer the least necessary, so the reader will be able to keep

reading this book and to build his or her own reasoning and positioning in relation to a topic of great social relevance.

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Chapter 2
Substance Use Disorders and Psychiatric Comorbidity

Felipe Ornell, Silvia Halpern, and Lisia von Diemen

Introduction

The presence of psychiatric comorbidity in SUD is a rule, not an exception. However, their rates vary according to the sample profile (outpatient, inpatients, community, among others); the disorder evaluated (depression, bipolar disorder, anxiety disorders, psychotic disorders); the drug of choice (alcohol, marijuana, cocaine, opiates/opioids, nicotine, amphetamines); and the geographic region (Kessler et al., 1994; Kessler, Crum, et al. 1997; Regier et al., 1990; Tiet & Mausbach, 2007; Toftdahl et al., 2015). The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) considered several main factors affecting symptoms interpretations, summarized in Table 2.1.

In samples of individuals with a primary diagnosis of SUDs, it is estimated that about one third with alcohol-related disorders and half of them with disorders related to other drugs use present at least one psychiatric disorder throughout life (Regier et al., 1990). On the other hand, high rates of psychoactive substance use have also been found in patients with primary psychiatric disorders (Martins & Gorelick, 2011). However, in severe mental disorders, such as schizophrenia and bipolar disorder, rates of comorbidity appear to be particularly high (Nesvag et al., 2015; Regier et al., 1990; Sowunmi, Amoo, Onifade, Ogunwale, & Babalola, 2019).

When compared to individuals with a single diagnosis, patients with comorbid disorders present higher psychopathological severity (Langas, Malt, & Opjordsmoen, 2011; Stahler, Mennis, Cotlar, & Baron, 2009), higher involvement in risk behaviors, higher rates of infection diseases such as HIV / AIDS and hepatitis C (Khalsa, Treisman, McCance-Katz, & Tedaldi, 2008), more crime involvement, and

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Table 2.1 Factors that influence the identification of co-occurrence of substance use disorders and other psychiatric comorbidities

Topic	Aspects to consider
Type of substance	Drugs of abuse
	Illicit drugs
	Other drugs
Sample studied	General population
	Distribution by gender
	Clinical samples
	General hospital
	Specialized SUD treatment
	Mental health services
	Specific populations
	Not in-treatment
	Homeless
	Incarcerated population
Definition of comorbidity	Diagnostic criteria
	Diagnostic instruments
Period	Last month, last year, in life
Geographical particularities	Treatment availability and accessibility
	Drug supply and market

consequently generating high economic and social impacts (DeLorenze, Tsai, Horberg, & Quesenberry Jr., 2014; Greenberg & Rosenheck, 2014).

In the following sections, it will be presented the main psychiatric conditions concurrent with each type of drug. It is well known the difficulties to estimate prevalence, since the methodological variation between studies may provide very heterogenous data preventing generalizations. Data from clinical samples, although enlightening, produces overestimated comorbidity prevalence. This may be due to the fact that individuals with multiple disorders are more likely to be referred for treatment than individuals with a single disorder (Smith & Randall, 2012). Also, it is important to highlight that most of the epidemiological studies were conducted in developed countries and may not represent the cultural differences and characteristics from developing countries.

Alcohol

Previous studies have highlighted that up to 37% of the patients with alcohol use disorders present other psychiatric disorders. Alcohol dependence is associated with an increased risk of mood disorders (three times higher), anxiety disorders (two times higher), generalized anxiety (four times higher), panic disorders (almost double), and post-traumatic stress disorder (PTSD) (two times higher) (Conway,

Swendsen, Husky, He, & Merikangas, 2016; Gimeno et al., 2017; Kessler et al., 1996; Petrakis, Gonzalez, Rosenheck, & Krystal, 2002). Regarding anxiety, in addition to its high prevalence, there are gender differences, estimated in 35.8% for men and 60.7% for women (Kessler, Crum, et al., 1997). Even alcohol abuse can increase the levels of anxiety and depression in some individuals. A previous study found that 63.8% of the sample patients presented criteria for pre-treatment depression. However, 6 months after detoxification and rehabilitation completion, the prevalence of depression dropped to 30.2% (Kuria et al., 2012).

In most cases, drug-induced psychiatric disorders disappear with prolonged abstinence. However, some residual symptoms of the withdrawal syndrome may last for months after cessation of consumption, making the differential diagnosis a complex task (Gimeno et al., 2017). Although differences in the consumption pattern are well known regarding gender, episodes of major depression and psychomotor agitation have been associated with an increased risk of alcohol use disorders in both men and women (Marmorstein, 2011).

Hallucinogens

Although not prevalent, hallucinogen persisting perception disorder is often diagnosed in individuals with a history of prior psychological problems and substance use, but it may occur even after a single exposure (Martinotti et al., 2018). Changes in perception and transient psychotic symptoms (which can last up to 12 hours) are common after hallucinogen use, such as lysergic acid diethylamide (LSD), 3.4-methylenedioximethamphetamine (MDMA), or ecstasy. However, there are reports showing that psychotic symptoms may persist for extended periods of time after cessation of use. In these cases, hallucinations, visual disturbances, disorganized thinking, paranoia, and long-lasting mood disturbances are common and should be distinguished from mental disorders with psychotic symptoms. These conditions are more prevalent in individuals with a history of prior mental disorder (NIDA, 2020b).

Previous findings pointed out to the high prevalence of dual diagnosis in hallucinogen users, highlighting mood disorders (21.98% dysphoria and 5.05% mania), anxiety disorders (19.72%), eating disorders (1.57%), PTSD (9.08%), personality disorders (31.40%), and SUD (alcohol 35.71%, marijuana 9.93%, and tobacco 45.73%) (Shalit, Rehm, & Lev-Ran, 2019). The use of hallucinogens was also associated with impulsivity, risky sexual behavior, mental health problems, and use of various other drugs (e.g., alcohol, opiates) (Grant, Lust, & Chamberlain, 2019).

Cannabis

The literature has shown that individuals with cannabis use disorder (CUD) have an increased risk for developing depressive symptoms (Lev-Ran et al., 2014; Pacek, Martins, & Crum, 2013). A previous investigation estimated that adults with this disorder are 2.8 times more likely to meet the criteria for depression (Hasin et al., 2016). It has been observed that early cannabis use may be responsible for a large number of adolescents and young adults at risk of developing depression and to an increased risk of suicide (Gobbi et al., 2019). It is important to consider an inverse relationship of the phenomenon, in which individuals with depressive conditions are more likely to use cannabis (Feingold, Weiser, Rehm, & Lev-Ran, 2015) and, consequently, develop mental disorders (Pacek et al., 2013). This can be explained because the individual may seek relief from unwanted psychiatric symptoms or try to alleviate symptoms of emotional distress using drugs (Salazar, Tomko, Akbar, Squeglia, & McClure, 2019; Sarvet et al., 2018). This issue will be discussed later in the session on causal hypotheses.

The relationship between cannabis use and psychoses has also been well documented (Gage, Hickman, & Zammit, 2016). Several studies show that drug use appears to occur before the onset of psychosis and is associated with the early onset of the disease. However, other factors also interfere with this outcome (Hanna, Perez, & Ghose, 2017). It is estimated that there is a dose-response relationship between the level of consumption and the risk of psychosis. The chronicity of consumption, the amount of drug used (especially high doses and synthetic formulations), and the earliness of first use are factors related to this outcome (Colizzi & Murray, 2018; Murray, Quigley, Quattrone, Englund, & Di Forti, 2016). Furthermore, there is substantial evidence that cannabis use increases the risk for other illicit drugs and for the development of anxiety and bipolar disorders (especially in dysthymia-like settings) (Hanna et al., 2017; Livne, Razon, Rehm, Hasin, & Lev-Ran, 2018). The prevalence of anxiety disorders in chronic users is approximately 20% (Reilly, Didcott, Swift, & Hall, 1998). Cannabis is the most common illicit substance used associated with bipolar disorder, and there is evidence that premorbid drug use predicts the development of this disorder (Hanna et al., 2017).

Data from a community survey conducted in the USA found that the occurrence of psychiatric comorbidities in cannabis users was higher compared to that estimated in the general population. Among severe users, there was an increased chance of up to 8% of personality disorders, 2.9% of anxiety disorders, 5.9% of bipolar type I disorders, 8.9% of smoking, 21.9% of other substance use disorders, and 6% of PTSD (Hasin et al., 2016).

Benzodiazepines

The use of benzodiazepines (BZD) was associated with an increased risk of severe anxiety, depression, and sleep disorders. Up to 87% of benzodiazepine addicts had concomitant alcohol use, 92% anxiety, and 90% depression (Nordfjaern, 2012). In Brazil, a lower prevalence was reported, with depressive disorders being found in 53% of BZD users (Madruga et al., 2019). Despite these differences, both data represent notoriously high rates. The use of BZDs is also contraindicated in individuals with recent trauma, since in these patients the consumption of these drugs carries a higher risk of developing PTSD, worsening results in psychotherapy, aggression, depression, and substance use (Guina, Rossetter, DeRhodes, Nahhas, & Welton, 2015).

Psychiatric symptoms resulting from a prolonged use of benzodiazepines are well described in the literature, especially because withdrawal symptoms may persist for years after cessation of use. The symptoms of abstinence may include insomnia, anxiety, memory impairment and concentration, ataxia, and, in severe states, psychotic symptoms, delirium, and epileptic seizures (Savaskan, 2016). Also, it should be noted that the use of other substances is common in BZD addicts (Schmitz, 2016), especially alcohol (Madruga et al., 2019). In addition, it is common for these patients to use this drug to manage symptoms of previous psychiatric conditions. It is observed that during the withdrawal period, these symptoms are exacerbated, which makes treatment difficult (Petursson, 1994).

Cocaine/Crack

Cocaine and crack users appear to be especially prone to the development of psychiatric comorbidities in both clinical populations and community samples (Carroll & Rounsaville, 1992). When comparing comorbidities between inhaled cocaine and crack users, the latter present more antisocial personality disorders (Paim Kessler et al., 2012). In a sample of outpatients, the prevalence of some psychiatric comorbidity was 61.8%, especially mood disorders (34.5%), anxiety disorders (22.7%), antisocial personality disorders (20%), and borderline personality disorders (21%) (Araos et al., 2014).

Crack users also have a higher prevalence of psychiatric symptoms, such as anxiety, depression, paranoia, and psychosis, than inhaled cocaine users (Gossop, Marsden, Stewart, & Kidd, 2002; Gossop, Marsden, Stewart, & Treacy, 2000). The concurrent use of psychoactive substances is also widely observed in this population, with alcohol, cannabis, and tobacco being the most observed concomitant drugs among inhaled cocaine users (Narvaez et al., 2014). A study among women undergoing treatment for crack detoxification found a trauma exposure rate of approximately 86.9% and a 15.1% PTSD rate (Francke, Viola, Tractenberg, & Grassi-Oliveira, 2013). High cocaine dependence rates (34.1%) were also found in

a sample of traumatized women, with the amount of drug use being strongly correlated with both physical, sexual, and emotional abuse rates in childhood and with PTSD symptoms in adult life (Khoury, Tang, Bradley, Cubells, & Ressler, 2010; Tull et al., 2009).

Opioids

Opioid addiction has been associated with several psychiatric conditions, including suicide (Frohe, Beseler, Mendoza, Cottler, & Leeman, 2019). A study conducted with 245 patients undergoing treatment for chronic pain found that a large proportion of patients had at least one psychiatric comorbidity (62.4% versus 46.3%) (Higgins, Smith, & Matthews, 2019). Mood and anxiety disorders have been well documented in individuals that used both prescription and over-the-counter opioid drugs (Gros, Milanak, Brady, & Back, 2013; Martins et al., 2012), while psychosis rates were relatively low (4–7%).

It should be noted that non-prescribed opioids are the most consumed illicit substances in the USA, along with cannabis (Higgins et al., 2019). According to the NIDA (2020c), about two million people in the USA are dependent on opioids, of which only 20% receive appropriate pharmacological treatment (such as buprenorphine, methadone, or naltrexone) combined with behavioral approaches (Alderks, 2013). When untreated, it is estimated a mortality rate of more than 100 deaths due to daily overdoses in the USA (NIDA, 2020d).

Causal Hypotheses

Several explanatory hypotheses have been developed in an attempt to understand the high prevalence and causal chain involved in psychiatric comorbidities and SUD (Mueser, Drake, & Wallach, 1998). Moreover, the diagnostic overlap confuses the temporal identification in which signs and symptoms emerge, which often makes it impossible to define which occurred first – SUD or psychiatric disorders. It has been suggested three possibilities that need to be considered in the etiological understanding of dual diagnosis (NIDA, 2020a):

- Mental disorders can contribute to the development of secondary SUD.
- The use of psychoactive substances can contribute to the development of secondary psychiatric disorders.
- Common risk factors (genetic and environmental) can contribute to both psychiatric disorders and SUD.

The self-medication hypothesis suggests that psychiatric disorders precede dependence (Mueser et al., 1998). Khantizan proposes that the substances are not randomly chosen but selected because of their pharmacological effects on internal

states of dysphoria (depression, anxiety, loneliness, sedation, boredom, among others). In addition, drug use could be an attempt to relieve unwanted and uncomfortable emotional symptoms (Bremner, Southwick, Darnell, & Charney, 1996; Harris & Edlund, 2005; Khantzian, 1985, 1997; Tull, Gratz, Aklin, & Lejuez, 2010; Weiser et al., 2003). From this perspective, heroin, for example, could be chosen for its effect on anger reduction; cocaine for its ability to alleviate depression and hyperactivity; alcohol for its anxiety and depression relief; and nicotine for its anxiolytic effect (Mueser et al., 1998). There are also reports that substance use can neutralize (or reduce) the side effects of drugs (Pettersen, Ruud, Ravndal, & Landheim, 2013), such as sedation from antipsychotic medications used to treat schizophrenia.

The hypothesis of secondary psychiatric disorders indicates that the use of psychoactive substances could precipitate the occurrence of a disorder that would not otherwise have arisen. This is in line with the assumptions supported by Volkow and collaborators who consider addiction as a brain disease, characterized by the occurrence of neuroadaptations in reward, memory, learning, motivation, inhibitory control, and planning systems (Volkow, Koob, & McLellan, 2016; Volkow, Wang, Fowler, Tomasi, & Telang, 2011). This process would be explained by neurochemical, brain, and peripheral changes, which could lead to altered homeostasis, predisposing the individual to the development of secondary psychopathologies (Kapczinski et al., 2008). Thus, mental disorder would be triggered by the pharmacological effects of drugs on the body, especially due to brain and epigenetic changes resulting from chronic consumption (Bartlett, Hallin, Chapman, & Angrist, 1997; Morton, 1999; Mueser et al., 1998).

Animal models of psychiatric disorders also suggest that vulnerability to mental disorders and addiction may share a unique nature, which includes both neurobiological elements and common clinical-behavioral variables (Chambers, 2007). It is possible that several aspects come together in a complex network, involving common biological elements and environmental triggers (Mueser et al., 1998). Thus, there would be a bidirectionality, where one disorder increases the vulnerability to another, suggesting an interactional effect (Mueser et al., 1998; Narvaez, Ornell, Kessler, Von Diemen, & Magalhães, 2017).

Furthermore, the hypersensitivity model postulates that individuals with psychiatric disorders are supersensitive to small amounts of psychoactive substances, enabling the transition from recreational use to addiction (Mueser et al., 1998). These hypotheses are not mutually exclusive and may share aspects of biological vulnerability (Chambers, 2007). A schematic summary of the hypotheses of co-occurrence of psychiatric comorbidities and SUD is presented in Fig. 2.1.

Finally, there is a growing body of evidence that supports the assumption that vulnerability to psychopathologies and SUD is associated with exposure to stress during the early periods of development (Ernst, Romeo, & Andersen, 2009; Grassi-Oliveira, Stein, Lopes, Teixeira, & Bauer, 2008). The presence of negative events in childhood and adolescence resulting from abuse and neglect has been associated with the development of these conditions (Shonkoff, Boyce, & McEwen, 2009).

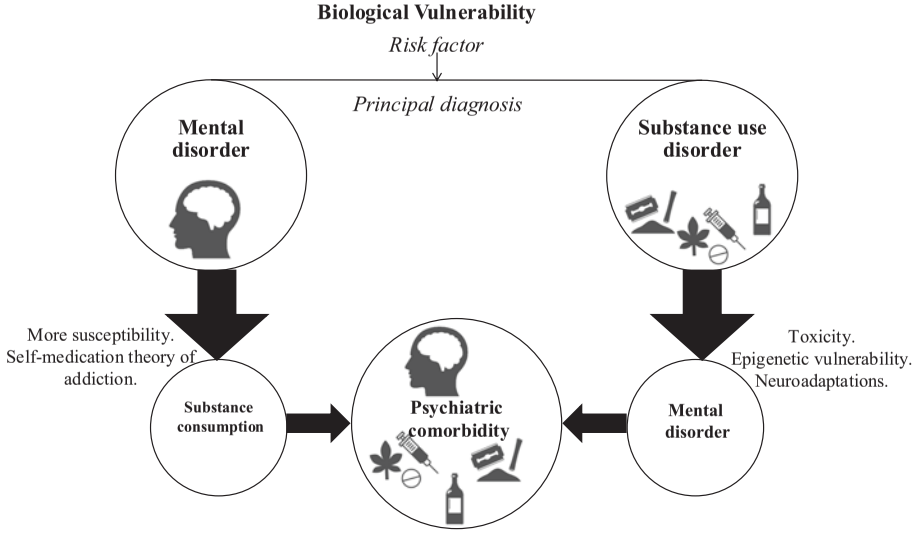

Fig. 2.1 Hypotheses about dual diagnosis in substance use disorders *Evidence of psychiatric symptoms*. (Adapted: Narvaez et al., 2017)

Diagnosis

The clinical differentiation between conditions resulting from psychiatric disorders and those triggered by SUD is a complex and challenging process that has important implications in guiding the therapeutic process (Miller, 1985; Narvaez et al., 2017). This is because drug use causes signs and symptoms that are also evidenced in several psychiatric conditions, such as sadness, anhedonia, lethargy, lentification, irritation, agitation, and psychotic symptoms, among others (APA, 2013; WHO, 2009).

It is known that the presentation of these conditions is heterogeneous, varying according to the drug used, the comorbid psychiatric disorder, and the interaction between these factors (Baldacchino, Arvapalli, Oshun, & Tolomeo, 2015). Moreover, the symptomatology presented may reflect different circumstances and patterns of consumption, for example:

(a) Intoxication
(b) The chronicity of consumption
(c) Withdrawal symptoms

Also, it is essential to consider that drug use, craving, or withdrawal syndrome can mimic, attenuate, or intensify the clinical presentation of physical, emotional, cognitive, and behavioral signs and symptoms of other psychiatric disorder, transiently or persistently. The appropriate evaluation of these elements is essential for planning the therapeutic process. It should be emphasized that the diagnostic process of SUDs is basically clinical. Although the dosage of some enzymes contributes to the assessment of the liver and cardiovascular functioning, there are no specific biochemical analyses for the diagnosis of SUD. Especially in cases of dual diagnosis, this difficulty is increased. A detailed research flowchart is presented in Fig. 2.2 (Busardo et al., 2018; Cadet & Bisagno, 2016; WHO, 2009).

Currently, the diagnosis of SUDs is performed based on the criteria established in the International Classification of Diseases (WHO, 2013) or in the Diagnostic and Statistical Manual of Mental Disorders (APA, 2013). The use of the presented diagnostic criteria is critical in the process of identifying the differential diagnosis. There are several instruments and screenings available to assess and diagnose LDS in a structured way. The indication of use depends on the objective to be achieved in the treatment (Mueser, Noordsy, Drake, & Fox, 2001; Samet, Waxman, Hatzenbuehler, & Hasin, 2007). Some examples of tools that have the potential to support the diagnostic process are as follows:

- Structured Clinical Interview for DSM (SCID I and SCID II)
- Mini International Neuropsychiatric Interview (MINI)
- Addiction Severity Index 6 (ASI 6) (Kessler et al., 2012)
- DSM 5 Level 1 Transversal Symptom Scale (APA, 2013)
- Severity of Psychosis Symptom Dimensions Evaluated by the Clinic
- AUDIT (Alcohol Use Disorders Identification Test) (Philpot et al., 2003)
- ASSIST (WHO-ASSIST-Working-Group, 2002)

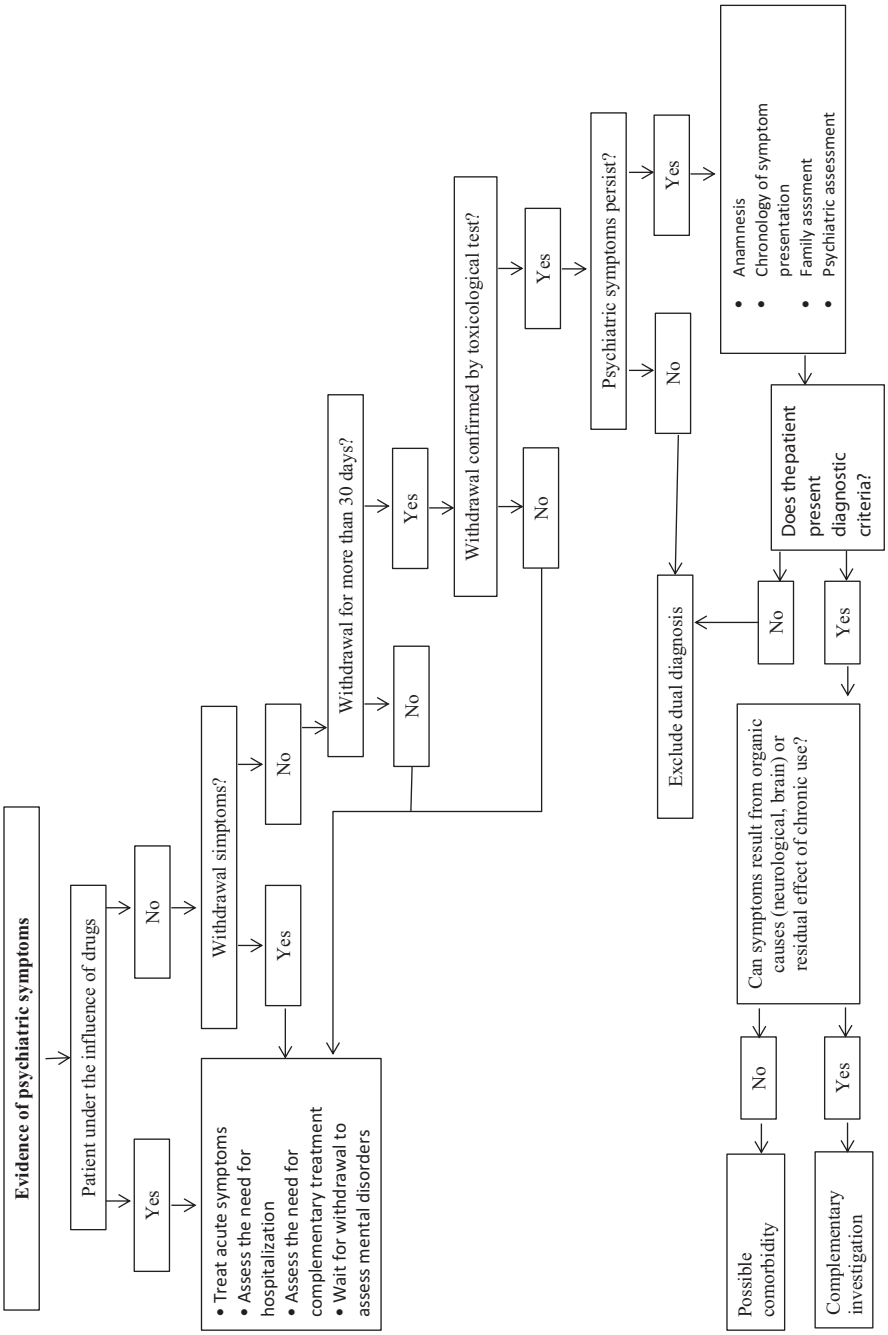

Fig. 2.2 Flowchart for investigating psychiatric comorbidities with substance use disorders

- The Drug Use Disorders Identification Test ADDIN EN.CITE (Berman, Bergman, Palmstierna, & Schlyter, 2005)
- CRAFFT Screening Test for adolescents using alcohol and other drugs (Knight, Sherritt, Shrier, Harris, & Chang, 2002)
- The Cannabis Use Disorders Identification Test (Adamson & Sellman, 2003)
- The Cannabis Abuse Screening Test (Cuenca-Royo et al., 2012; Legleye, Karila, Beck, & Reynaud, 2007)

It is noteworthy that the diagnosis of a comorbid psychiatric disorder should only be made after other clinical explanations have been ruled out, such as the occurrence of brain injuries and neurological conditions, organic causes (syphilis, HIV), and direct effects of a substance (delirium, craving, intoxication or withdrawal symptoms), among others.

Considering that psychotic, mood, and anxiety disorders can be induced by substances (APA, 2013), it is essential to avoid the diagnosis during acute intoxication or initial period of abstinence.

In addition, it is emphasized that there is no consensus on the abstinence time required for the diagnosis, since signs and symptoms may persist for months after the interruption of consumption. In this sense, diagnosis within 4 weeks of abstinence should be avoided. Furthermore, there are cases in which masking symptoms may interfere with the diagnosis even after abstinence, as in the case of personality disorders, for example.

It is also important to consider the omission of information by the patient (consciously or unconsciously). For this reason, it is essential to carry out an objective anamnesis with a family member or someone from the patient's social network.

Eventually, it is recommended to request a toxicological screening to confirm the abstinence, as well as a neuropsychological evaluation (this subject will be presented in a chapter on neuropsychological assessment in drug users).

Other important elements in the diagnosis of comorbidities include the following:

- Interview family members.
- Map available resources to access.
- Gather information on previous admissions and treatment.
- Risk assessment (current and previous).
- Evaluate the presence of clinical, neurological, or neurodegenerative diseases.
- Identify possible omission of symptoms by the patient.
- Establish a therapeutic bond.

Situations in which hospital admission may be indicated:

- Inability to stop using drugs
- Attend appointments under intoxication
- Suicidal thoughts and suicidal threats
- Severe consumption pattern
- Overdose
- Inability to diagnose or treat comorbidity in outpatient follow-up
- Impulsivity

- Involvement in risky activities (driving, spending, unprotected sex, and trafficking)

Dual Diagnostic Implications

Although the co-occurrence of mental disorders and SUD is relatively common, they are often under-recognized and poorly treated. This association contributes to unsatisfactory complexity to clinical management and increases the health costs (Najavits et al., 2007; Valderas, Starfield, Sibbald, Salisbury, & Roland, 2009). Moreover, integration between mental health services and specialized SUD services remains a challenge, since historically these devices have been implemented in a disarticulated way and based on a misdiagnosis (el-Guebaly, 2004).

The main effects of co-occurrence of psychiatric comorbidity with SUD are as follows (el-Guebaly, 2004; Mueser et al., 1998):

- Early onset of drug use
- Aggravation of the consumption pattern
- More difficult diagnosis
- More complex clinical management
- Alteration of symptoms (or masking of symptoms)
- Worse therapeutic outcomes
- Worse medical, social, and family implications
- Increased demand of hospital and emergency services
- Increased relapse rates
- Rising health-care costs
- Higher rates of involvement with violence and imprisonment
- Higher degree of disability

Treatment

As mentioned above, the association of psychiatric comorbidities in SUDs leads to negative outcomes that impact the quality of life and functionality of individuals, and for this reason, the treatment of these conditions is urgent (Narvaez et al., 2014; Zubaran, Foresti, Thorell, Franceschini, & Homero, 2010). Despite the recognition of the importance of effective treatments for these individuals, the indicated strategies (clinical, psychosocial, and pharmacological) in these cases are not yet well established (Mestre-Pinto, Domingo-salvany, & Torrens, 2015). Such difficulty may be due to the fact that many services do not have the logistics, expertise, and combined networks to treat both conditions. In the USA, for example, only 44% of patients with dual diagnosis receive treatment, and only 7% are treated for both disorders (SAMHSA, 2011).

There is not enough scientific evidence to support the use of a specific treatment protocol. However, a literature review allowed us to estimate that:

(a) Effective treatments to reduce psychiatric symptoms also tend to benefit patients with dual diagnosis.
(b) Existing effective treatments focused on reducing substance use also decrease substance use in dual-diagnosis patients.

This chapter provides a critique of the current state of the literature, identifies directions for future research on the treatment of dual-diagnosis individuals, and calls for urgent attention by researchers and funding agencies to conduct increasingly methodologically rigorous research in this area (Tiet & Mausbach, 2007).

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Chapter 3
New Forms of Addiction: Digital Media

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Introduction

Addiction is a broad terminology that does not refer exclusively to addiction on substances that generate changes in the functioning of the body and alter perceptions and behavior. In recent decades, several other behavioral "addictions" or "excesses" have been observed, investigated, classified, and diagnosed. Among the non-substance addictions, we can include habits, activities, or objects, such as affection, food, physical exercises, the Internet, games, social networks, sex, and technologies, among others.

Concerning the use of substances, the concept covers some characteristics, such as repetitive involvement in rewarding behaviors, loss of control over time, persistence despite adverse consequences, and physical addiction (Andrade & De Micheli, 2016, 2017; Andrade & De Micheli, 2017; De Micheli, Andrade, Silva, & Souza-Formigoni, 2016). Currently, it is suggested that some psychiatric disorders share similarities with substance addiction. This perspective influenced the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), which presents in its manual the category "Substance-Related Disorders" and included Internet gambling disorder. The question is "Can other disorders characterized by repetitive

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behaviors (kleptomania, trichotillomania, and Internet addiction, among others) also be considered addictions?" (APA, 2013; Chamberlain et al., 2016).

Behavioral addictions are defined by the recurrence of behaviors that generate states of pleasure or that provide relief from unpleasant sensations, with failures in inhibition, and that persist despite negative consequences in the family, school/university, work, interpersonal relationships, and other spheres of life. These repetitive behaviors are associated with a picture of clinically significant suffering (Leeman & Potenza, 2013; Messina, Fuentes, Scanavino, & Parsons, 2014).

This chapter aims to discuss the concept of behavioral addiction and to elucidate specifically the etiology and neuropsychological and behavioral aspects of digital media addiction, as well as to point possible directions for effective prevention and treatment interventions.

Technological Addiction: The Excessive Use of Digital Media

In *Brave New World*, Aldous Huxley (1932/2009) describes a society of the future marked by scientific and technological advances. According to the author, "the Brave New World theme is not the advancement of science itself; it is this advancement insofar as it affects human beings" (p. 15). Huxley's speech refers to the enslavement of human beings by science and technology, something not far from the lifestyle we lead.

Technological advances and social changes enable immediate and continuous connection to the Internet through smartphones, making available to those who use it a menu full of functions: phone calls, games, social networks, instant messages, blogs, real-time information, and many other possible activities. Given their practicality, portability, and diversity of functions, smartphones are prevalent and have many users that are continuously increasing around the world, covering all social media (Andrade, Kim, et al., 2020; Andrade, Scatena, Bedendo, et al., 2020; Andrade, Scatena, Martins, et al., 2020). Besides being a communication and information search tool, it is a medium that allows different forms of relationship (Grant, Lust, & Chamberlain, 2019; Guedes, Nardi, Guimarães, Machado, & King, 2016; Moromizato et al., 2017).

The use of different technologies and digital media has become an increasingly recurrent phenomenon, influencing the way relations are made. The excessive use, however, characterized by excessive distraction and poor control, can cause or intensify various damages, such as repetitive motion injuries and problems in various areas of life: family, school, university, work, etc. (Cruz, Scatena, Andrade, & De Micheli, 2018). These technological advances and their impacts have motivated researchers to engage in the search for a better understanding of these relationships and their consequences at the clinical, cognitive-behavioral, social, and environmental levels (Andrade et al., 2016; Choi et al., 2019; Oliveira, Barreto, El-Aouar, Souza, & Pinheiro, 2017; Schaub et al., 2018; Scatena, 2017; Silva & Silva, 2017). Although it was not formally included in DSM-5 as a nuisance, addiction on the

Internet, virtual social networks, and other digital media have become a severe public health problem worldwide (Cerniglia et al., 2017).

Like most psychological disorders, addiction on the Internet and virtual social networks are of a multifactorial order; that is, the interaction of several variables determines it. For each specific case, there is a unique combination of genetic, family, social, and cultural factors (Tereshchenko & Kasparov, 2019). Some of these factors will be described below.

Neuropsychological Aspects

Behavioral addictions involve dysfunctions in several regions of the brain, mainly in the frontal and striated cortex. Studies suggest that very high or deficient levels of dopamine can lead to impulsive and risky behavior, including excessive use of substances and other addictions (Andrade, Bedendo, Enumo, & Micheli, 2018). Rewards from substance use seem to lead similar responses in reward circuits and connected regions such as the amygdala, hippocampus, and frontal cortex, as well as in the use of digital media. In summary, the findings indicate damage to the frontal areas, reduced availability of D2-type receptors in the dorsal striate, low integrity of the white substance, and differences in density/volume of the gray substance that affect the regions involved in the processing of rewards and emotions (Abrahao, Quadros, Andrade, & Souza-Formigoni, 2012; Andrade, De Micheli, & Fisberg, 2014; Leeman & Potenza, 2013) (Table 3.1).

Technological addiction is associated with structural or functional impairment of regions responsible for reward processing, motivation, memory, and cognitive control. There is, therefore, shared pathophysiology between Internet dependency, virtual social networks, electronic games, and other technologies with substance use disorders (Park, Han, & Roh, 2017).

Table 3.1 Brain regions related to behavioral dependencies

Regions	Functions
Prefrontal cortex and orbitofrontal cortex	It plays an important role in learning and reward functions, guiding the decisions to be taken. Changes in this region are associated with more significant difficulties in decision-making and impulse control
Striated body	It is related to dopamine receptors and in the planning and modulation of movement pathways and is involved in cognitive processes such as executive functions
Insula	It relates to decision-making and emotional aspects. Changes in this region are related to risk behaviors and the inability to interrupt addictive behaviors
Caudate core	It is responsible for cognitive functions such as memory and learning. It plays a role in controlling impulsive behavior. Dysfunctions in this area may be related to difficulty in interrupting addictive behaviors

Source: Based on Lemos, Diniz, Peres, and Sougey (2014)

Behavioral Characteristics

In sociology, Zygmunt Bauman defines today's society as the "liquid modern world," where people seek refuge from their uncertainties, insecurities, and anxieties in habits such as consumption and attachment to material goods and relationships that somehow guarantee (or, according to the social imaginary, would have the function of guaranteeing) specific stability, security, and reduction of their anxieties. Bauman (2004) talks about the search for relationships to assuage fears in the face of loneliness. This search, according to the author, represents a paradox in that the relationships of the modern liquid world end up exacerbating the symptoms of uncertainty, insecurity, anguish, and loneliness. A cycle is then created in the constant search for the reduction or resolution of adversities imposed by life.

The Internet provides the feeling of stability and control over the relationships that the subjects establish, making it available to the individual to undo a friendship through a simple touch on the *delete* key, which does not occur in offline/real life. Despite feeling in control, in virtual interaction, subjects end up losing inhibitory control over the frequency and intensity of Internet use, which becomes more and more accentuated and lead to adverse effects of various orders (see Fig. 3.1) (Fortim & Araujo, 2013).

Fortim and Araujo (2013) use the Greek Mermaid Darlings allegory to describe Internet dependency. The Greek Mermaids are seductive women who sing to attract sailors, who are captured and destroyed as they approach them. In the same way, the Internet can be seen as an ocean full of adventures and treasures, as well as containing the mermaids who seduce and dominate those who approach. In this way, the Internet sings promises of love, glory and wisdom, and beauty, irresistible to lonely sailors seeking recognition within this virtual world. Addiction, then, arises from the promises of "a *magical, endless and permanent world*" (p. 308). This metaphor

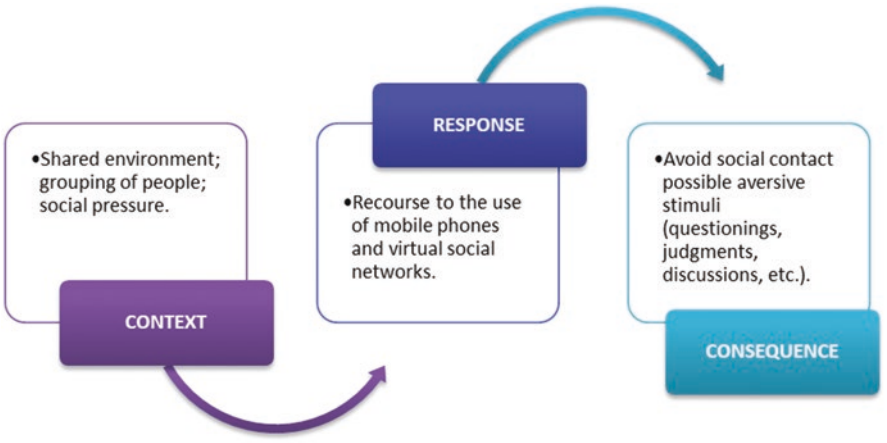

Fig. 3.1 Functional analysis of digital media use and dependence

is interesting to understand the relationship that people can establish with digital media. However, it is necessary to pay attention to the fact that correlation does not imply a causal relationship, that is, the Internet does not by itself represent the cause for the problems that individuals present, so other factors need to be taken into consideration to understand the etiology of disorders related to the excessive use of technologies. It is necessary to emphasize that the Internet is not the "villain," but the way the individual uses it, as well as the biopsychosocial context of risk that can lead to problematic use.

To enable understanding of the relationship individuals establish with digital media, Bauman (2004) states that "within the network, you can always run for shelter when the crowd around you becomes too delirious for your taste" (p. 80), "virtual proximity reduces the pressure that non-virtual contiguity is in the habit of exerting" (p. 83), and "the solitude behind the closed door of a room with a mobile phone at hand may seem a less risky and safer condition than sharing common domestic ground" (p. 85). Given this, there is a perspective called *Escape Theory*, which suggests addiction on smartphones, the Internet, and social/virtual networks as a secondary issue, which appears as a strategy to escape or avoid more serious problems. Thus, this behavioral dependency is understood as a way for the user not to focus on his difficulties (Roberts, Yaya, & Manolis, 2014). This perspective is also known as *compensatory use*, considering overuse as a way to escape from real-life issues or to alleviate dysphoric moods. The basic principle of this theory is that the *locus of* the problem is a reaction of subjects to a harmful living condition. For example, if, in real life, there is a lack of interpersonal relationships, the individual reacts by using the net to socialize. In other words, online activities can compensate for the psychosocial problems of real life. Therefore, these problems need to be analyzed, considering the real-life context of the users so that their motivations are understood (Kardefelt-Winther, 2014).

For this reason, Internet dependency can be understood as a strategy of *coping*, of facing adversity. In this way, users resort to the virtual world in order to obtain distraction, pleasure, and emotional support. Temporarily, the Internet alleviates problems and assuages unpleasant feelings, besides being the primary way to relate to other people (Fortim & Araujo, 2013).

Behaviors are maintained to the extent that they produce positive consequences (e.g., pleasurable sensations, more significant social interaction) and soften or avoid adverse consequences for subjects (e.g., relief of aversive feelings). The recurrent use of smartphones, Internet, and virtual social networks provides access to positive boosters (e.g., pleasant images and texts, "likes" or "tastes," contact with a more significant number of people) and harmful boosters (e.g., avoidance of contact with nearby people and postponement of an aversive activity or a high-cost response task). In other words, it is a functional behavior, because it generates adaptive effects to the subjects, despite possible negative consequences (family conflicts, detachment of people in "real life," and academic and work losses, among others).

The Diagnosis

The main problems reported referring to psychological addiction are the desire to use the network, lack of control over use, irritation when disconnected, and euphoria when accessing the network. Also, there are a need to be connected and a little interest in real life, leading to neglect of sleep, food, and offline relationships. This preference for virtual life can generate adverse consequences, such as triggering sleep or eating disorders, impacting on the dynamics of family and social relationships, and impairing academic and professional performance (Fortim & Araujo, 2013; Kardefelt-Winther, 2014). Andreassen et al. (2012) listed five factors that may indicate a level of addiction to digital media, such as virtual social networks (Fig. 3.2).

Compulsive users have feelings such as irritation, bad mood, and tension when they are offline. Also, feelings such as guilt and shame arise as a result of not fulfilling commitments and social isolation. Frustration is also present after unsuccessful attempts to avoid excessive Internet use (Fortim & Araujo, 2013). Given this, the term "nomophobia" was inspired by the expression "no mobile," which means

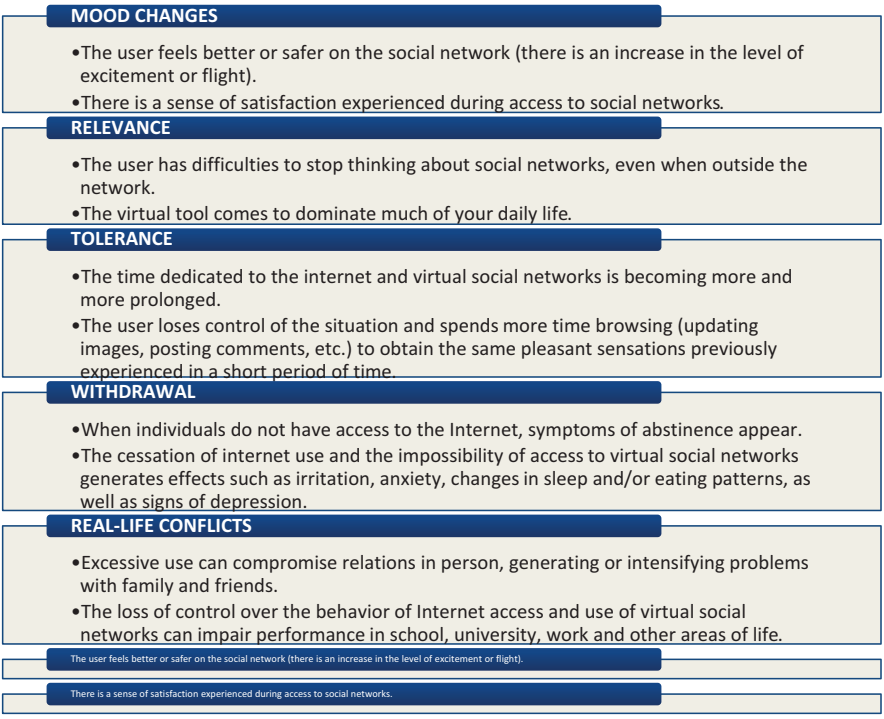

Fig. 3.2 Aspects of digital media dependence. (Source: Adapted from Andreassen, Torsheim, Brunborg, and Pallesen 2012)

"without a cell phone," adding "Phobos," of Greek origin, which means phobia or fear. Nomophobia is, therefore, anguish or fear of the subject being without access to a mobile phone, computer, and Internet (Oliveira et al., 2017).

It is believed that these symptoms should be identified as a type of impulse control disorder, a category in which syndromes such as oniomania (shopping compulsion), excessive sexual impulse, dermatillomania (excoriation disorder, *skin picking*, willingness to cause or aggravate *skin* injury), repetitive self-mutilation, and technological dependencies such as the Internet and video game (Fortim & Araujo, 2013) are included.

Comorbidities

These behavioral dependencies have been associated with psychosocial factors and psychiatric comorbidities. Studies show correlations with a wide range of psychopathological conditions, such as stress, anxiety, depression, impulsiveness, attention deficit, and hyperactivity, among others (Abreu, Karam, Góes, & Spritzer, 2008; Cerniglia et al., 2017; Choi et al., 2019; Grant et al., 2019; Pluhar, Kavanaugh, Levinson, & Rich, 2019; Tereshchenko & Kasparov, 2019). Scatena's (2017) survey of Brazilian students, for example, found that 10.7% (NTOTAL = 5986) of the participants in his survey were identified as Internet-dependent, and these presented higher levels of depression, stress, and anxiety than the others. Therefore, the evaluation process should consider possible comorbidities associated with addiction for the formulation of more effective intervention strategies.

Interventions

Treatment

Studies suggest that clinical interventions based on cognitive-behavioral approaches are more effective in treating problematic Internet use, teaching patients to identify, evaluate, and respond assertively to situations, that is, avoid triggers and develop new coping strategies so they can begin to identify unhealthy habits and emotions. Group therapy can also be an effective treatment, especially for adolescents, as a group environment can improve interpersonal relationship skills, increase social engagement, and create a support network that leads subjects to feel motivated by their peers. As with many other psychological disorders, a combination of therapeutic strategies, such as family, educational, and social interventions, enhances the effectiveness and efficacy of the treated outcome (Pluhar et al., 2019).

Prevention

Families and health and education professionals together are responsible for guiding and managing the use of digital media by young people. Early interventions, based on scientific evidence, are very important for the prevention and reduction of possible socio-emotional cognitive damage resulting from or intensified by the problematic use of these technological resources (Azevedo & Pereira, 2014; Pluhar et al., 2019). The recommendations of the American Academy of Pediatrics (2011) are listed below.

For Professionals

- Reflect the concept of "media boundaries" with families.
- Encourage families to provide information and interact/play with their children.
- Explain to families the importance of stimulating (non-virtual) play/activities for the development and learning of children/teens.
- Discuss and develop management strategies for the use of electronic media by children/adolescents.

For Families

- Establish and apply limits on the use of digital media.
- Apply assertive strategies to manage the use of electronic media by children/adolescents.
- Supervise the content to which children/teens have access.
- Interact with children/teens and enable them to interact with other people.
- Create opportunities for children/teens to have fun disconnected from digital media (e.g., walks, outdoor games, non-virtual games, participation in groups, and alternative activities, among other options).

Families and health and education professionals need to be aware of signs of possible emotional problems in children and adolescents. Psychological disorders (e.g., anxiety and depression) can predispose to frequent and intense use of the Internet, electronic games, and virtual social networks as a way to ease their symptoms (Azevedo & Pereira, 2014).

In this sense, participation, communication, and dialogue are essential, both for healthy development and for the detection of possible problems to be prevented or treated. Therefore, professionals can act in the orientation to parents and caregivers so that they can provide healthy conditions for the cognitive-social-emotional development of children and adolescents.

Final Considerations

The concept of dependency covers several factors that occur with intensity and frequency and in contexts that can generate or intensify personal, family, academic, professional, and social problems. The fields of Psychology and Neuroscience have elucidated the installation and maintenance of these behaviors, which, when exacerbated, harm the functioning of people's lives. Studies show that, despite being topographically different (shape, structure), these behaviors have very similar functions: besides generating positive reinforcing consequences, they also soften or annul aversive stimuli that cause a certain degree of suffering. For this reason, there are comparisons between substance addiction and other non-chemical behavioral dependencies, as they have many characteristics in common concerning neuropsychological and behavioral aspects.

In order to formulate prevention and treatment strategies, one must start from an integral view and take into consideration the biopsychosocial aspects that influence both the installation (how they arise) and the maintenance (how they are maintained) of behavioral excesses. Identifying the function of these behaviors and managing the contingencies responsible for their recurrence is essential for broader and more effective clinical and psychosocial interventions.

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Part II
Psychological Assessment of Substance Abuse

Chapter 4
Possibilities and Limits in Psychological Assessment of Individuals with Substance Use Disorders

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Introduction

Understood as a scientific technical process of data collection about the subject's psychic functioning, the psychological assessment (PA) has proven effective for diagnosis, prognosis, and intervention planning in a range of problems. It is dynamic in nature, and its purpose is to explain psychological phenomena and to subsidize the decisions of the psychologist himself in his professional performance or of other professionals in the clinical, institutional, and labor sphere, among other scenarios.

In recent years, the ethical and political responsibility of the PA has been the subject of discussions in the academic community. It is known that the historical-cultural dimension of people or groups influences psychic functioning, and the outcome of the PA has psychosocial impacts on individuals (Conselho Federal de Psicologia [CFP], 2013). In the case of users of psychoactive substances (PS), these recommendations may become larger and more complex.

According to the II Home Survey on Psychotropic Drug Use in Brazil – a study involving the 108 largest cities in the country (Carlini, Galduróz, Silva, Noto, & Fonseca, 2006) – the consumption of PS is common practice in the country. In relation to licit substances and their use in life, it was verified that 74.6% of the interviewees used alcohol and 44% tobacco. Regarding illicit substances, it was observed that about 22.8% of the population had already had at least one episode of use. Marijuana appears as the most used (8.8%), followed by solvents (6.1%), cocaine (2.9%), and crack (1.5%).

Additionally, we know that the use of PS has been configured as a social problem. Such use is related to the increase in violence, crime, morbidity and mortality, automobile accidents, antisocial behavior, etc. (Bastos, Vasconcellos, Boni, Reis, & Coutinho, 2017; Carlini et al., 2006). However, the use of PS, especially when

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linked to a pattern of abusive use, should be analyzed from several perspectives (Perrenoud & Ribeiro, 2011; Pillon & Luis, 2004).

It is called drug addiction when the user-drug relationship is markedly abusive to the subject. The drug addiction is characterized by impulsive and recurrent behavior related to consumption and extreme difficulty in interrupting or controlling use. Although it is configured in a controversial concept, governed by an infinity of theoretical orientations, it is consensual that the relationship built by the individual with a certain substance can be dysfunctional and harmful, both for him and for his environment.

Although a good portion of users do not develop drug addiction or show significant losses, the statistics show expressive numbers. According to the III National Survey on Drug Use by the Brazilian Population (Bastos et al., 2017), in a population between 12 and 65 years of age, it was observed that approximately 2.3 million people were dependent on alcohol; 1.2 million individuals were dependent on some substance other than alcohol or tobacco, the most frequent being marijuana, benzodiazepines, and cocaine, respectively; 3.3 million presented criteria for alcohol dependence, and finally, about 4.9 million Brazilians presented a high or very high degree of dependence on tobacco.

We will see that the current concept of drug addiction is descriptive. Although the mechanisms for the drug addiction are still the subject of debate, we know that the individual progresses from experimentation to occasional use, intense use reaching total dependence. However, this progression is complex and depends on the interaction between the drug, the user, and the context. All these factors make the PA phenomenon in this target audience a complex and arduous process.

In view of this, this chapter aims to describe the PA process in PS users, bringing to the reader a clinical perspective. First, we discuss the fundamental concepts and diagnostic criteria for substance use disorders. The factors that influence the harmful use of PS and the development of substance use disorders are discussed. In the following moment, suggestions for the conduct of PA are presented. The chapter closes with some problematizations about the PA as a theoretical practical field.

Psychoactive Substances (PS): Fundamental Concepts and Diagnostic Classification

"Drug" is any substance, harmful or having a curative potential, capable of causing changes in the functioning of the living organism. However, modern taxonomy uses the term psychoactive substances (PS), so-called because they are capable of causing significant and functional changes in the psychism (Mitsuhiro, 2013). The nature of these changes is correlated to the type of substance, which is why it has been agreed to classify PS as depressants, stimulants, and central nervous system (CNS) disrupters.

Depressant substances are mainly characterized by causing a decrease in the overall or specific activity of the CNS, causing reduced motor activity and little reactivity to pain and anxiety. Their use provokes an initial effect of euphoria and a later identification of information processing, usually relaxation and sleepiness. Alcohol, barbiturates, benzodiazepines, and opioids are representative of this group. On the other hand, stimulant substances, such as amphetamines and cocaine, increase brain activity and differ in essence from mental activity disturbances in that they do not produce abnormal psychic phenomena, such as delirium and hallucinations. In the latter group, we find marijuana, tobacco, LSD, and ecstasy (Nicastri, 2014).

The routes of administration may be enteral, parenteral, inhalation, or topical and will determine the extent of cognitive reactions and/or damage. Paths of administration that cause faster absorption tend to influence the progression of use. Moreover, the greater the action potential, that is, the ratio between the time a substance begins to take effect and its duration, the greater the probability of provoking more intense intoxication and a dysfunctional consumption pattern by the subject.

Two other central concepts are abstinence and tolerance. Abstinence refers to a set of symptoms resulting from the interruption or reduction of a substance that causes dependence, while tolerance alludes to the need for increasing amounts of the same substance to achieve the desired effect. The presence of these two clinical phenomena is configured in strong evidence that the individual has progressed from a state of abusive use to drug addiction (Laranjeira et al., 2003).

The International Classification of Diseases (ICD-10) rejected the notion of dependent and nondependent to the detriment of a less polarized rationality. According to this code, there would be a differentiation in the pattern of consumption of users: there are those individuals who make harmful or abusive use of a certain psychoactive substance, without, however, being chemical dependent. Thus, it creates differentiating criteria for harmful use and criteria for addiction.

For illustration purposes, let us consider three individuals (A, B, and C) and their alcohol consumption patterns. Individual A has sweating, vomiting, and morning shakes that are stopped after using the drug, which is why he drinks daily (addiction). Individual B, on the other hand, drinks eventually, but when he does, he has difficulties in regulating his consumption. For this reason, he has driven drunk, caused accidents, got involved in fights, and had unprotected sexual behavior when he was drunk (harmful consumption). In contrast, individual C consumes alcohol in low doses but takes the necessary precautions to ensure his safety and that of others (low risk consumption) (Laranjeira et al., 2003; Peuker & Kessler, 2016).

The IDC-10 criteria for harmful substance use (abuse) require that actual harm must have been caused to the user's physical and mental health, the frequency of consumption is criticized by others, and the harmful pattern of consumption is associated with diverse social consequences of various kinds. For addiction, the criteria are more extensive and involve compulsion to consume, increased tolerance, abstinence syndrome, relief or avoidance of abstinence by increased consumption, relevance of consumption, narrowing or impoverishment of the repertoire (behavioral and social), and reinstallation of the addiction syndrome. These guidelines guided the diagnosis of addiction syndrome of psychoactive substances (Box 4.1).

Box 4.1 Diagnostic criteria for substance dependence syndrome (ICD-10; WHO, 2019)

A definitive diagnosis of dependency should usually only be made if three or more of the following requirements have been experienced or displayed at some point in the previous year:
(a) A strong desire or sense of compulsion to consume the substance
(b) Difficulties in controlling the consumption behavior of the substance in terms of its beginning, end, and levels of consumption
(c) A state of physiological abstinence when the use of the substance has ceased or has been reduced, as evidenced by the following: Abstinence syndrome for the substance or the use of the same (or closely related) substance with the intention of relieving or avoiding withdrawal symptoms
(d) Evidence of tolerance, such that increasing doses of the psychoactive substance are required to achieve effects originally produced by lower doses
(e) Progressive abandonment of alternative pleasures and interests in favor of the use of the psychoactive substance, increasing the amount of time needed to recover from its effects
(f) Persistence in the use of the substance despite clear evidence of clearly harmful consequences. Clear efforts should be made to determine whether the user was actually aware of the nature and extent of the harm

In the current version of the Diagnostical and Statistical Manual of Mental Disorders (DSM-5), the dichotomy between harmful use/substance abuse and substance dependence has been focused on the understanding that drug use varies along a *continuum* of severity. This means that the individual's relationship with the drug is not restricted to the frequency and amount of substance use but to the risks and negative consequences, both for him and for others. Thus, despite the criticism of the tendency to pathologize the use, the new version of the manual assists in a comprehensive analysis of the pattern of use and allows the evaluation of the damage caused by the use of the substance.

According to DSM-5, substance use disorders (SUDs) are based on a pathological pattern of substance use-related behaviors. It covers 10 classes of drugs, namely: alcohol, caffeine, *cannabis*, hallucinogens, inhalants, opioids, sedatives, hypnotics and anxiolytics, stimulants, tobacco, and other substances (or unknown substances).

SUD is characterized by the presence of a grouping of cognitive, behavioral, and physiological symptoms, indicating continuous use by the individual despite significant substance-related problems. The diagnosis of SUD is given through general groupings involving low control (Criteria 1–4), social harm (Criteria 5–7), risky use (Criteria 8–9), and pharmacological criteria (Criteria 10–11). The disorder occurs in a *continuum*, based on the number of diagnostic criteria met, and may be mild (presence of 2 or 3 criteria), moderate (presence of 4 or 5 criteria), or severe (presence of 6 or more criteria) (see Box 4.2).

Box 4.2 Diagnostic criteria for psychoactive substance use disorder (APA, 2014)

1. The substance is often consumed in larger quantities or for a longer period than intended
2. There is a persistent desire or unsuccessful efforts to reduce or control the use of the substance
3. Much time is spent on activities necessary to obtain the substance and its use or to recover its effects
4. Crack or a strong desire or need to use the substance
5. Recurring use of the substance resulting in failure to meet important obligations at work, school, or at home
6. Continued use of the substance despite persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of its use
7. Important social, professional, or recreational activities are abandoned or reduced due to the use of the substance
8. Recurrent use of the substance in situations where this represents a danger to physical integrity
9. The use of the substance is maintained despite the awareness of having a persistent or recurrent physical or psychological problem that tends to be caused or exacerbated by it
10. Tolerance
11. Abstinence

For information purposes, the above-mentioned manual also presents a general category called substance-induced disorders. It includes substance-induced intoxication, abstinence, and other substance/medicinal disorders (e.g., substance-induced psychotic disorder, substance-induced depressive disorder).

According to Ribeiro and Rezende (2013), the conceptualizations and diagnostic criteria aim to create a proper language among professionals, in addition to optimizing the approach of the subject and the direction of treatment. For the authors, when professionals have knowledge of these concepts and put them into practice, they are able both to identify at an early stage when the individual presents problems as to the consumption of substances, recognize the subtleties of the symptoms and various damages, as well as decide about the appropriate referrals that avoid or minimize future complications.

Factors Associated with Harmful Use of PS and SUD Development

Risk and Protection Factors

In general, the clinical profiles of individuals with SUD are single, young adults, non-white, low schooling, unemployed and/or undefined profession, and without religious practice (Almeida, Anjos, Vianna, & Pequeno, 2014; Lacerda, Pinto, Pinto, & Salomão, 2015; Ribeiro et al., 2012)

The consumption of licit substances, such as cigarettes and alcohol, is higher in males (Targino & Hayasida, 2018). Where schooling is concerned, the punctual prevalence of *binge drinking* – an expression meaning "heavy episodic drinking" or "drinking if drunk" – is more common among individuals with a complete higher level or more. In contrast, individuals with this level of education have lower rates of cigarette consumption (Bastos et al., 2017).

Some studies have identified that college students are considered a critical group for PS use and abuse. Health science students, for example, represent a population with a high rate of alcohol use (Mendonça, Jesus, & Lima, 2018). According to Neves Jr. and Bittar (2014), entry into university by young adults is a period of greater vulnerability for the initiation and maintenance of harmful use of PS. This is because experiences such as family distance, living alone or with other students, and still experiencing the absence of supervision can increase the desire to try alcohol and other drugs.

Other studies show that students with low scores in spirituality levels and no religious affiliation tend to consume alcohol at more problematic levels than adherents of a religion (Pillon, Santos, Gonçalves, Araújo, & Funai, 2010). In high school students, the presence of religious education in childhood was also a protective factor (Soldera, Dalgalarrondo, Corrêa, & Silva, 2004).

In adolescents, the reasons that lead to consumption are correlated to the effects of the substances, such as facilitating sociability with peers, recourse to induction of a state of well-being, a strategy for dealing with unpleasant emotions, markedly anxiety and depression, and also ease of access (Oliveira, 2005).

Low school performance, early age, weak family ties (family violence and lack of parental supervision), and friends or family members who use or trade drugs and attend private school represent risk factors for greater involvement, consumption, and abuse of drugs among adolescents. In contrast, those with healthy patterns of interaction and adaptability, religion, access to information, and ultimately satisfactory parental and community relationships tend not to experiment and/or abuse substances (Cordeiro et al., 2019; Pratta & Santos, 2013; Soldera et al., 2004; Targino & Hayasida, 2018).

Psychological Factors

It is not known for sure which motivational factors lead to drug use; however, it has been said that many users seek to reduce aversive internal states (anxiety, tension, end shyness, etc.) and create or maximize pleasant emotional states (euphoria, relaxation, increase and/or activation of sexual desire, etc.).

It is estimated that the stimulation of the reward system, that is, a set of structures responsible for reinforcing behavior and creating new memories, contributes to the establishment of the SUD. The prolonged consumption of PS causes neurochemical

imbalances, in which the feeling of well-being/pleasure, commonly produced by natural rewards (food, sex, etc.), is strictly linked to the action of the substance in the body, hence the appearance of symptoms of tolerance and abstinence (Formigoni, Kessler, Baldisserotto, Pechansky, & Abrahão, 2018; Messas & Vallada Filho, 2004; Mitsuhiro, 2013).

Classic conditioning (association of neutral stimuli that then become conditioned), operant conditioning (strengthening certain patterns of behavior to the detriment of others), and social learning seem to assume a significant role in the use, abuse, and development of SUD. According to Peuker, Fogaça, and Bizarro (2006), in an environment where the individual does not have an established behavioral repertoire, processes such as modeling, imitation, or reinforcement are put into action. The intensity, type of drug, and the frequency with which pairs consume PS can be perceived by the individual as a reinforcement of his own behavior, which motivates him to act in line with this perception.

Research has shown that PS consumption can be related to positive expectations about its effects. Expectations, that is, anticipatory cognition, have motivating properties that can influence the emission of a specific behavior. It is a mnemonic content constructed over time through the observation of family models, peers, direct experiences with drugs, or exposure to media information. In this way, individuals who have never used alcohol or other PS can have positive expectations about their effect (joy, pleasure, etc.). Therefore, the belief that drinking behavior can generate certain affective states may be sufficient to lead the individual to experiment and repeat use, if the initial expectations are confirmed (Junior, 2004; Peuker, Rosemberg, Cunha, & Araujo, 2010).

It is assumed that "if-so" assertions that relate events to their respective consequences (beliefs of consequences), together with other cognition such as relieving beliefs (expectation that use will mitigate or remove some subjective discomfort or suffering) and permissive or facilitating beliefs (ideas that the use of the substance, despite the vicissitudes, is both acceptable and desirable), interact with environmental and cultural aspects and strongly predict the harmful use of PS (Junior, 2004).

On the presence of significant cognitive impairment in individuals with SUD, the specialized literature has not yet reached a consensus (Sayago, Lucena-Santos, Horta, & Oliveira, 2014). However, there are records of commitment to tasks that require constructive visual skills, attention, memory, and executive functions, in addition to the reduction in processing speed (Ferreira & Colognese, 2014; Kolling, Silva, Carvalho, Cunha, & Kristensen, 2007). However, the longer time of abstinence seems to contribute to reverse these damages (Oliveira, Laranjeira, & Jaeger, 2002; Rocha, Setúbal, Calheiros, & Bergamini, 2018).

The emotional and behavioral changes were identified more precisely. Among them, difficulties in anger management, deficits in social skills, impulsiveness, depressive and anxious symptomatology, and the presence of suicidal ideation are frequent (Almeida, Flores, & Scheffer, 2013; Sayago et al., 2014; Scheffer, Pasa, & de Almeida, 2009; Silva, Hatanaka, Rondina, & Silva, 2018).

Psychiatric Comorbidities in SUD

There is extensive literature debate about the high prevalence of undiagnosed comorbidities in SUD. It is claimed that the lack of treatment leads to greater chronicity and worse prognosis for both clinical conditions (Laranjeira et al., 2003).

Among the most common psychiatric comorbidities are anxiety disorders, mood disorders, personality disorders, and psychotic disorders (Hess, Almeida, & Moraes, 2012; Zaleski et al., 2006). In adolescents, comorbidity is frequently found with disruptive disorders (conduct disorder and opposition defiant disorder) and with attention deficit/hyperactivity disorder (Oliveira, 2005; Torales et al., 2014).

It is not possible to establish causal relationships between SUD and the development of another mental disorder, which makes genetic vulnerability, hypothesis of toxicity, or self-medication as possible causes. In fact, aspects involving gender, ethnicity, and socioeconomic condition may act as predisposing factors both for SUD and for other psychiatric comorbidities (Diehl & Souza, 2013; Messas & Vallada Filho, 2004; Zaleski et al., 2006).

In establishing a second concomitant diagnosis of SUD, Diehl and Souza (2013) argue that in clinical practice, instead of the terms "primary" and "secondary," it would be more significant to recognize that some disorders develop independently, while others are induced or derived. Other difficulties prevent greater flexibility of double diagnosis, such as the need for the patient to find at least 1 month in abstinence and theoretical/practical knowledge of mental health professionals.

The Psychological Assessment in SUD

The PA can be indicated from the moment the subject or family is interested in knowing better their psychic functioning and their relationships, until when the use of PS causes significant and lasting damage to the individual and his environment, such as a drop in academic or work performance, reduction in the behavioral repertoire, difficulties in interpersonal relationships, presence of emotional and cognitive alterations, and psychic suffering intensified by the action of psychiatric comorbidities. The source of referral varies substantially and may be requested by professionals working in public or private institutions in the health area or in services with an educational focus, by spontaneous referrals, arising from the counseling of a friend and/or family member, or still be motivated in a legal context.

First of all, it must be clear to the psychologist what the purpose of the referral is: to obtain a broader knowledge of the individual's functioning or to evaluate some specific area? The objectives are as diverse as the strategies selected and may vary from screening, diagnosis, evaluation of cognitive deficits, and personality characteristics, among others.

Bureaucratic issues such as testing space (real estate, lighting, noise-free room that guarantees privacy) and the time available to the professional (how much time

the psychologist has and will need to apply instruments and collect and interpret data and whether there is urgency in issuing the report) should be considered, especially if the psychologist works in a service where the demand is large. Individual characteristics regarding the individual's current overall state should also be appreciated (treatment regimen the patient is in – outpatient or hospitalization – use of medication, presence of diagnosis, whether or not he is abstinent, and, finally, whether he is able to respond to certain instruments, such as those of the autorelate type) (Peuker & Kessler, 2016).

It is indicated that the psychologist conducts an anamnesis interview to understand how the use of PA has become problematic. At that moment, a survey is made of the whole history of the individual (support network, eating habits, clinical and psychiatric history, issues related to development, family dynamics, work, etc.). At the end of the anamnesis, the psychologist needs to know the individual's consumption pattern, how the risk and protective factors are related to his or her subjective characteristics, and the presence of mental disorders not diagnosed or in remission.

It is suggested that the factors maintaining and aggravating the problem, the coping strategies already used and/or available, as well as the individual potentialities be investigated, bearing in mind that this information is a guide for the treatment and can be used in the writing of the report.

The symptoms and warning signs *(red flags)* of harmful use of PS can provide greater understanding in PA. According to Laranjeira et al. (2003), the signaling symptoms of problems resulting from harmful PS use are sleep disorders, depression, anxiety, mood instability, excessive irritability, altered memory and sense of perception, history of trauma and recurrent accidents, sexual dysfunction, and frequent absences (school, work, social commitments). The physical signs are as follows: mild tremor, changes in blood pressure (possible abstinence from alcohol), gastric and/or intestinal problems, enlargement of the liver, irritation of the nasal mucosa (suggests inhalation of cocaine) and conjunctiva (signals use of marijuana), frequent use of eye drops and sprays to clear the nose, odor (breath), and, finally, "oral hygiene syndrome" (use of chewing gum or mouth rinse to disguise the breath).

Interviews with third parties and home or institutional visits are indispensable tools, serving as a reliable means of triangulation of data and validation of information dispensed by the appraiser since, for numerous reasons, he may be motivated to simulate or conceal information. Especially the interview with relatives or significant people (parents, spouse, cousins, etc.) provides data that cannot be reached by other ways, such as understanding the relationships in the nuclear and extensive family, the available social support, delimitation of social roles, existence of cases of relatives with SUD, involvement with justice, and domestic violence, among others.

In what concerns psychological testing, Faccio and Ferreira (2017) in a recent study executed the survey of instruments in the System for Evaluation of Psychological Tests (SATEPSI) specific for the evaluation of behavior related to the abusive use of PS. At the time of the consultation – June 2015 – the authors found a list of 156 tests with a favorable opinion for use by psychologists. The analysis made from the description of each test available on the site returned only one test

favorable for clinical evaluation in cases of use of alcohol and other psychoactive substances: IECPA – Inventory of Expectations and Personal Beliefs About Alcohol (Pinto-Gouveia, Ramalheira, Robalo, Costa Borges, & Rocha-Almeida, 1996), with adaptation and evidence of validity for different samples of the Brazilian population (Amaral & Saldanha, 2009; Oliveira & Werlang, 1993).

In order to update the search in the SATEPSI system, we implemented a new consultation in March 2020, using the descriptors "psychoactive substances," "drugs," and "alcohol." At the moment, no psychological instruments with this description have been found nor among those of non-private use by psychologists. Considering that the system consists of the platform that technically and legally guides the selection of psychological instruments for professional use (CFP, 2018), it faces a difficulty in proceeding with the psychometric analysis of constructs related to the subject, and, although this is not the only possibility of reading about the demands in this field, it could contribute with relevant information about the population studied.

Despite these weaknesses, it is important that in the course of the PA, as many strategies as possible are included. Scales, psychological tests (psychometric, neuropsychological, projective, scales that evaluate other constructs, such as personality, and social skills), behavioral observation, and interviews, among other resources, selected according to the reason for referral can be used. Exams of biological material, psychophysiological responses, and brain functioning can be used as complementary sources.

The literature documents three instruments used with PA users in both clinical and research settings, namely, the Alcohol Use Disorders Identification Test (AUDIT); the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST); and the Addiction Severity Index (ASI-6). However, until the last SATEPSI consultation, these instruments were not on the list of tests with a favorable opinion from the Conselho Federal de Psicologia for use by psychologists.

The AUDIT questionnaire is a measure that assesses the frequency, dependency, and negative consequences of alcohol consumption. It is an appropriate measure to investigate the presence of harmful or hazardous alcohol consumption (Méndez, 1999; Santos, Gouveia, Fernandes, Souza, & Grangeiro, 2012). The ASSIST is a screening tool that covers nine classes of PS (tobacco, alcohol, marijuana, cocaine, stimulants, sedatives, inhalants, hallucinogens, and opiates). Its translation and validation for the Brazilian population presents good sensitivity and content specificity in identifying harmful use and dependence on alcohol, marijuana, and cocaine (Henrique, De Micheli, Lacerda, Lacerda, & Formigoni, 2004).

The sixth version of the Addiction Severity Index (ASI-6) is a tool for an overall assessment of the individual in the last 30 days or 6 months prior to the PA. Already with satisfactory psychometric properties for the Brazilian population, the questionnaire provides the index of severity of problems and the degree of need for intervention in various areas of life of the individual according to their own perception (Kessler et al., 2012).

Tests of biological material, also called toxicology, detect whether the individual is under the effect of the substance during the sample collection, which can be

blood, saliva, or exhaled air for alcohol use. The examination of urine and keratin (hair, nail) can detect whether the individual has used the substance over several days. It is important to emphasize that each biological matrix has a detection window and depends strictly on the PA used (Sanches, 2016).

Neuroimaging techniques and psychophysiological examinations are other valuable means capable of providing relevant information about the body and brain dynamics. Based on these data, it is possible to make a clinical reading, for example, cerebellar atrophy, ventricular dilation, reduction of blood flow, and cerebral glucose metabolism are some of the clinical indicators of chronic alcohol use (Nicastri, 2001). The results of psychophysiological tests (blood pressure, heart rate, and galvanic responses of the skin) can be used to identify various complications resulting from the use of PS.

It should be emphasized that all conduct of the PA should be exempt from judgments of value. Far from it, the presence of empathy must be ensured in an atmosphere of real welcome, both during the process and in the devolution. Finally, the report should be written in accordance with the guidelines present in the Code of Ethics of the Profession (CFP, 2005) and in Resolution Conselho Federal de Psicologia no. 06/2019 (CFP, 2019), which establishes rules for the preparation of written documents issued by the psychologist.

Final Considerations

In this chapter, we did a clinical reading of SUD and how PA could be conducted to help people who make harmful use of PS. The literature on the use and abuse of PS is vast. Historical, sociocultural, ethnographic analyses, and clinical models, among so many other guidelines, have contributed to the understanding of the subject. However, the PA, as a theoretical and practical field, has advanced timidly, although it has much to add.

The absence of PA protocols and psychometric instruments, recognized and authorized by the Conselho Federal de Psicologia for use in the population studied here, points to a universe still to be explored. One of the main and most attractive goals of psychological testing is to operationalize mental models of functioning, refute them, and point out limitations. Knowing the cognitive and emotional processes involved in people with SUD serves as a basis to predict the prognosis and establish the diagnosis with greater reliability. From a clinical point of view, this could also mean the possibility of validating scientifically proven interventions. In addition, both the psychologist and other professionals can take advantage of the knowledge coming from the PA and add to their area of knowledge and practice.

In general, in the context of public policies in Brazil, the PA has not been a constant practice. Recently, the document Referências Técnicas para Atuação de Psicólólogos (the Technical References for the Performance of Psychologists in Public Policies on Alcohol and Other Drugs) (Centro de Referência Técnica em Psicologia e Políticas Públicas do Sistema Conselho de Psicologia [CREPOP],

2019) was published, and it does not mention PA or psychological testing. We raise some hypotheses that justify this data: the historical development of the construction of the tests, their purpose, and application took place in the educational and organizational sphere; the public services do not have an adequate testing environment or psychological tests available; we do not have theoretical and practical guidelines to conduct a PA in these services, since this context is relatively new for psychologists; there are limitations regarding psychological instrumentation, and, finally, the predominant approach does not take the PA as a relevant and/or appropriate process for these spaces.

Finally, the proposal in this chapter was to update the reader on the resources available for the PA and the factors indicated by the literature as related to the abusive use of PS. However, this may change with other perspectives and socio-historical-cultural changes. Furthermore, as has been demonstrated, PS users or people with SUD can benefit from the PA, without the ethics and respect for this population being neglected. We hope to have contributed with the theme and to have incited in the reader new reflections, criticisms, and other possibilities of care.

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Chapter 5
Neuropsychological Assessment in Users of Psychotropic Substances

Adriana Mokwa Zanini, Felipe Ornell, and Clarissa Marceli Trentini

Introduction

Mental function deficits tend to impair the treatment process of patients with psychotropic substance use disorders (SUD; APA, 2013), making it difficult to reorganize toward a healthier lifestyle. Thus, neuropsychology plays an important role in the integral rehabilitation of these patients (Hutz, Bandeira, Trentini, & Krueg, 2016; Lopes, Andretta, & Oliveira, 2019). In this sense, this chapter aimed to introduce the neuropsychological assessment (NPA) process and discuss the main particularities of this assessment in the context of patients with SUD, without the pretension of exhausting such a broad theme, which involves numerous variables.

Neuropsychology is an interdisciplinary area, which widely seeks to identify relationships between brain function and behavior. Pioneering studies involved people with brain injuries and *postmortem* neuroanatomical analysis, which became more viable after World War II (Toni, Romanelli, & Salvo, 2005). One possibility for action in neuropsychology is the NPA, which main objective is to identify patients' damaged and preserved cognitive abilities, in order to draw up a rehabilitation plan (Malloy-Diniz, Mattos, Abreu, & Fuentes, 2016).

The work with neuropsychology is assigned to different professionals, including psychologists, and requires different knowledge, especially of neurosciences. Also, when evaluating a patient who uses or has used psychotropic substances, technical specialized knowledge of this interdisciplinary area is required.

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Neuropsychological Assessment as a Process

First of all, it should be pointed out that, unlike the conception of many professionals, neuropsychological tests are not the main tool of this type of examination. Standardized instruments have an important contribution to the NPA, but an experienced and competent evaluator also counts on other sources of data collection, such as clinical interviews and ecological tasks (activities performed in natural contexts). Furthermore, it is necessary to understand the NPA as a process (including therapeutic), not as a mere application of tests, because one must know how to choose the appropriate tests for the patient, besides how and when to use them (Malloy-Diniz et al., 2016).

The NPA process must involve and consider aspects such as the relationship of trust, particularities of the patients (in the case of SUD, the performance of toxicological tests is an indication to be considered), psychoeducation, motivation, and participation of family members, in addition to careful completion planning, including written and verbal returns, with referrals. Such points will be addressed below.

The NPA shall start with the creation of a bond, a therapeutic relationship of trust, under a motivational atmosphere. These aspects are important in any NPA context, especially when evaluating drug users. Although substance use is scientifically recognized as a mental disorder (APA, 2013), it is not uncommon to observe lay people weaving criticism and moral judgments directed at individuals with SUD, and professionals are not exempt from acting in a similar manner.

Thus, it is important that the professional knows his beliefs and limitations about SUD and, depending on it, should refer patients with disorders of this spectrum to specialized professionals. When professionals judge patients morally, even without verbalizing it, they tend to transmit this in some other way, which is usually harmful for the development of the bond and consequently for the success of the treatment.

It is important to point out that some patients may omit to use alcohol and/or other drugs in their first encounters, especially teenagers, precisely because they do not yet have a link with the evaluator, as well as for fear of being criticized and/or exposed to their parents/guardians. Therefore, it is necessary to hire professional secrecy, which includes exceptions in which those responsible/family members should be informed of what is strictly essential to promote safety measures for patients and their families, since especially illicit drugs can also put people close to them at risk. Moreover, patients with neurological comorbidities, mainly involving losses, such as in cases of stroke, traumatic brain injury, and dementia, may develop SUD, which may be facilitated by the absence of criticism. This requires professionals to be open and prepared to perceive, and the relationship of trust may favor patients to approach the subject with transparency.

Motivational interviewing and psychoeducation can favor the establishment of a relationship of trust, especially when there are indications of systematically performing toxicological tests. When patients are in a protected environment, such as in the context of hospital admission, toxicological tests may not be essential. However, in outpatient settings, this tool is quite useful, including for estimating

whether patients' cognitive profile may be affected by substance use. There are contexts in which access to these *screenings*[1] is not possible, which highlights the importance of recognizing the main physiological and behavioral effects resulting from the use, intoxication, and abstinence syndrome of each substance (APA, 2013).

It is worth considering that psychoeducation can foster a relationship of trust, even with the request for these exams. Psychoeducating patients regarding the action of psychotropic substances in the brain reward system can help, since this action has a central role in the development of the SUD. By experiencing pleasurable sensations, the brain and the individual's organism can start to function as if the substance was biologically necessary, generating cracks and/or physiological symptoms of abstinence. There is a change in the value of the stimulus reinforcement, from positive to negative (better detailed in the topic on section "Neurobiology of SUD", in this chapter). Thus, patients tend to behave impulsively and consume the substance again to relieve the suffering of abstinence, which involves biological and emotional aspects. It tends to be difficult to resist, and, perhaps out of shame, denial, or guilt, patients may omit consumption from the evaluator (Diehl, Cordeiro, & Laranjeira, 2018; Fuentes, Malloy-Diniz, Camargo, & Cosenza, 2014).

Furthermore, a psychotropic substance can affect cognitive functions due to the effects of its recent use on the body, such as intoxication or abstinence syndrome. Thus, it is important to identify whether patients have secondary deficits to one of these conditions, which are transitory, or if the deficits are relatively established (they can be primary or consequence of chronic use).

In case the cognitive functions of patients are clearly impaired by these transitory conditions, it is indicated to wait for stabilization in order to perform the NPA itself, mainly because the association with physiological symptoms that cause malaise is common and, therefore, interferes negatively in the formal evaluation, as will be discussed later. Nevertheless, one must evaluate patients' availability for change, that is, to initiate or maintain abstinence, in addition to guiding and/or referring them to the initial treatment.

Even if patients are already in sustained abstinence, it is indicated to evaluate their motivation for the NPA, because their performance in tasks and neuropsychological tests will also depend on their effort and interest. In addition, the evaluator should instigate patients' own motivation for this adherence, instead of trying to persuade them, as many people who they live with probably do.

Again, psychoeducation can help. Some neuropsychological tests may appear infantilized at first glance, as they involve tasks with pencil and paper (even crayons) and drawings, for example. By explaining to patients the theory that underlies each instrument, with accessible language, the evaluator is developing the *rapport* and the bond between the pair, thus favoring patient compliance. However, as commented at the beginning of this introduction, ecological tasks should also be a source of data. It is pertinent to evaluate patients' functionality in daily activities, involving self-care, home hygiene, and organization to fulfill obligations, mainly.

[1] *Screenings*: sorting

This can be observed in a natural context, such as in the inpatient unit or office itself, in the market, and even in patients' homes. When it is not possible to observe it, one should investigate its performance in these activities through an interview (Malloy-Diniz et al., 2016).

Family reports, with patients' consent, can contribute to the understanding of the cognitive profile, especially in the comparison between the current period and the premorbid one regarding the performance in ecological activities. Data collected through family members are important, mainly when the information by self-reported patient is insufficient or incoherent, either due to cognitive limitations or difficulties in self-criticism. It is important to consider that family members' reports may be contaminated by ambiguous and intense feelings, and the evaluator should welcome these feelings, but mediate and aim at the neutrality of the reports. Furthermore, a well-conducted NPA process tends to generate a therapeutic effect on its own, since it must promote reception, bonding, psychoeducation, reflection, and motivation. For this purpose, it may be indicated to interview the family, as it is important to understand the role that patients assume in this system, as well as whether the family is able and willing to contribute to their improvement.

Other important sources of data are the analysis of postings on social networks and documents, such as bank statements, school/academic evaluations, e-mails, and application messages. These sources can provide information about the cognitive functioning of patients. Generally, it is possible to use these data for a comparison between the premorbid state and the current one, unlike neuropsychological tests, which will probably be applied only after the suspicion or manifestation of a cognitive limitation.

Furthermore, it is common to make contact with other professionals or use documents written by colleagues from other areas, such as neurologists, psychiatrists, physiotherapists, speech therapists, occupational therapists, psychologists, and teachers, among others, depending on the follow-up the patient performs or has already performed. It is indicated to understand the way each professional acts, as well as the prognosis of the respective area. Especially regarding the use of medications in general, it is necessary to understand possible effects on the central nervous system, and its reflexes on cognitive functions. To conclude the NPA process, assessors shall promote the relevant discards and deliver a report.

In addition to all these technical recommendations, there are professional specifics according to the legislation of each country. For example, in Brazil, there is no formal guidance from the Councils of all the professions that usually work in the area. Therefore, evaluators must inform themselves with their professional Council at the time of the NPA. If there are no specific guidelines for writing neuropsychological reports, the commented version of Resolution 06/2019, published by Federal Council of Psychology (Conselho Federal de Psicologia – CFP, 2019), or others documents that may alter or replace it, is suggested as a basis, once it addresses the preparation of documents written by the psychologist in the professional practice.

In the "comments and grounds" table of the commented version of CFP Resolution 06/2019, there is the possibility of placing a subtitle to specify the process, such as "Psychological Report – Neuropsychological Assessment."

Highlighting some guidelines, the report should present the following six items: identification, description of the demand, procedures, analysis, conclusion, and references. The language should be technical, but understandable to the patient, family and applicant, so there may be the need to explain some technical terms. Throughout writing and verbal feedback, one should value the patients' preserved abilities and their positive characteristics, such as the very fact of having adhered to the NPA. The impaired aspects should be addressed as points to be worked on, followed by suggestions for this, which tends to encourage patients to seek the indicated referrals (Barroso & Nascimento, 2019; Hutz et al., 2016).

In the procedures item of the report, one should include not only the standard neuropsychological instruments but also observations, ecological tasks, interviews, contacts with other professionals, and document consultation, among other sources of investigation used. Regarding the tests, it is important to cite their bibliographic references, as well as the standards used (Malloy-Diniz et al., 2016).

In written and verbal returns, the evaluator must focus on the results relevant to the reason for referral. It is important to provide guidance on daily handling and make the necessary referrals, with an explanation of the possible gains the person may have. The search for government rights and benefits should also be addressed, considering that it is not uncommon to have physical sequelae generated by the use of psychotropic substances, among other conditions that are not specific to SUD. It is indicated to research places to search for referrals, together with patients and family, considering their financial conditions and availability for displacement, among other aspects of their context. This may favor adherence to referrals (Hutz et al., 2016; Malloy-Diniz et al., 2016).

Neurobiology of SUD

It is important to briefly understand the neurobiology of SUD to contextualize the profile of these patients. The brain has a reward system, which is activated in the face of pleasurable stimuli, which lead to the release of neurotransmitters, especially dopamine. In the face of consumption of psychotropic substances, the release of dopamine is superior to that evidenced from daily events, which causes a much more intense pleasurable sensation (Ornell, Kessler, & von Diemen, 2019). Thus, the brain creates memories, associating pleasure with drugs, which release dopamine, among other neurotransmitters. Thus, the brain memorizes the places where the drug was consumed, as well as the people involved in this intense pleasure process and any other stimuli it considers associated with this strongly pleasurable sensation (Diehl et al., 2018; Fuentes et al., 2014).

Little by little, the pleasurable sensation configures a positive reinforcement for recurrent and more intense use of psychotropic substances, because it adds elements that increase the probability of the use behavior. In other words, pleasure increases the chance of repeated use. So, in this case, pleasure is a reward to increase the probability of using the psychotropic substance.

When people are exposed to a stimulus that the brain has memorized as associated with these pleasurable sensations, they feel craving, which is a very important concept from the point of view of psychoeducation. Craving is an almost uncontrollable urge to use psychotropic substances, usually accompanied by dysphoric symptoms that cease after the use of the substance (APA, 2013).

When the person usually gives in to the craving and uses the substance systematically, tolerance develops. In other words, it is necessary to increase the amount of the drug and/or frequency of use to feel the same pleasure as before. Moreover, abstinence syndrome is common. In the absence or abrupt decrease in consumption of the substance, the individual may have symptoms, such as tremors, sweating, and general physical malaise, as well as psychological symptoms, such as anxiety. Using the drug again is a way to relieve these symptoms. Then, the reinforcement for the use behavior changes valence gradually from positive to negative. The consumption starts to relieve or eliminate suffering, reinforcing the probability of use by removing the withdrawal symptoms (Abrahao et al., 2012; Andrade and De Micheli 2016; De Micheli et al., 2016; Formigoni, Kessler, Baldisserotto, Pechansky, & Abrahão, 2016).

Psychoactive Substances and Repercussions on Mental Functions

The consumption of psychotropic substances is related to disorders in brain function and psychological functions (Cadet & Bisagno, 2016; Koob & Volkow, 2016; Tang, Posner, Rothbart, & Volkow, 2015; Volkow & Morales, 2015). This can lead to changes in the level of consciousness, in addition to cognitive and motor functions, such as attention, balance, inhibitory control, and decision-making (Bruijnen et al., 2019; Cadet & Bisagno, 2016; D'Souza, 2019; Gould, 2010). The consumption of psychotropic substances is also widely related to the manifestation of signs and symptoms evidenced in various psychiatric conditions, such as irritation, agitation, sadness, anhedonia, lethargy, lentification, and psychotic symptoms, among others (APA, 2013; WHO, 2009). The main changes caused by acute substance consumption should be known and considered, with the most common losses occurring in cognitive and motor functions, reaction time, balance, and mood. The particularities of the different classes of substances are also important. The class of central nervous system depressors, for example, tends to generate drowsiness, while stimulants usually generate agitation (Scherer, 2017; WHO, 2016).

Since the mere presentation of symptoms is not sufficient to define that a mental disorder is ongoing or that the neuropsychological alteration is chronic, disregarding this may impair the quality of the evaluation (Miller, 1985) and, consequently, the direction of therapeutic measures, in addition to the prognosis (Kirsh, Christo, Heit, Steffel, & Passik, 2015). It is known that the presentation of the cited alterations is very heterogeneous and may occur acutely, transiently, or permanently (SAMHSA, 2005). Moreover, as already commented, the clinical presentation may

be a direct reflection of intoxication, of the effect of psychotropic substances due to recent use, of chronic consumption, or of withdrawal symptoms (Busardo et al., 2018; Cadet & Bisagno, 2016; WHO, 2009), which makes the evaluation process difficult (Miller, 1985; Narvaez, Ornell, Kessler, Von Diemen, & Magalhães, 2017). In this sense, it is essential to consider the various forms of symptomatological presentation, in addition to the following aspects:

- The intensity of preexisting psychiatric conditions raises as a result of drug use or withdrawal symptoms.
- The consumption or abstinence precipitates the occurrence of psychiatric conditions that would not have occurred without the use of the drug.
- Drug use and/or abstinence mimic signs and symptoms of certain psychiatric disorders in a transitory way.
- The use of the drug or abstinence masks previously established psychiatric conditions.
- Craving triggers psychiatric symptoms in a transitory way.

In addition, considering that in the SUD clinic practice the omission of drug consumption (or relapse) is frequent among patients (Vitale & van de Mheen, 2006), it is fundamental that the psychologist be attentive to these elements during the evaluation process. One way to confirm or refute self-reporting is by using *screening* tests for drugs in the body (Kirsh et al., 2015). This allows defining the best time to perform the NPA and minimize the interference of acute or transitory conditions on the functions that are intended to be measured.

Several biological matrices can be used to detect the presence of psychotropic substances in the body, such as the following: blood, sweat, urine, saliva, nail, and hair, among others (Dolan, Rouen, & Kimber, 2004). Each analytical method has its own peculiarities, advantages, disadvantages, and distinct indications. In addition, it should be noted that the detection window is different among the tests, that is, the detection sensitivity of the use that occurred can vary from minutes to hours, days, weeks, or months (Hadland & Levy, 2016; Scherer, 2017). Thus, the choice of the matrix should be based on the purpose of the test (e.g., investigation of use history, verification of recent consumption or intoxication, screening, monitoring of abstinence, continuous use, and others) and the feasibility of collection (Dolan et al., 2004; Hadland & Levy, 2016; Vearrier, Curtis, & Greenberg, 2010).

Besides the detection windows, professionals should consider the association between chronic drug use and different levels of impairment in cognitive functioning. Moreover, the levels of neurocognitive recovery during sustained abstinence may vary and are usually partial. Recovery may vary depending on the substance used, the intensity of consumption, existing comorbidities, and the preconditions for the disorder (Cadet & Bisagno, 2016; Schulte et al., 2014). Thus, in order for the NPA to be reliable, it is essential to perform it after the initial abstinence period, since there is often the emergence of symptoms characteristic of the withdrawal of the substance (SAMHSA, 2005). In addition, it is necessary to observe that the symptoms of abstinence, the symptomatological peak, and the time of presentation are different among the classes of substances (AAC, 2020).

It is worth noting that the effect of abstinence time on parameters of cognitive impairment is not well established in the literature (Copersino et al., 2009). It is recommended that cognitive testing is not performed before 7 days of abstinence, and it is ideal to wait a few weeks of abstinence, according to the evolution of patients' condition. This favors the distinction between acute drug effects and long-term stable deficits, which may be apparent initially (Miller, 1985). Moreover, cognitive performance may deteriorate slightly in the first weeks of abstinence before gradually improving (Copersino et al., 2009). In cocaine users, for example, the cognitive performance deficit seems to persist for at least 2 weeks (Berry et al., 1993). In other drugs, such as amphetamines, *ecstasy*, opiates, and alcohol, deficits in executive function, especially inhibition, are usually evident in the first weeks of abstinence (van Holst & Schilt, 2011). On the other hand, prospective studies indicate that sustained abstinence usually results in partial neurocognitive recovery (Schulte et al., 2014).

Thus, it is suggested that the evaluation should take place in a planned manner, after the initial abstinence has stabilized and after detoxification, in a window of at least 30 days of abstinence or more, depending on the substance and severity of the case. This allows differentiating the effects of the baseline condition from the direct effects of the drug, craving or abstinence. Especially during mental function testing, it is essential that the psychologist is aware that each drug brings about specific mental and behavioral changes and that the symptoms of abstinence and the stabilization period are different among the classes of substances (WHO, 2009).

In addition, to monitor the evolution of mental functions, the test can be repeated after a period of time, because some deficits may improve with sustained abstinence, either naturally or due to neuropsychological rehabilitation. However, the deadlines indicated in the literature for retesting should be respected, considering the implications of a cognitive reevaluation, such as the roof and floor effects, explained in the topic on neuropsychological tests.

Main Cognitive Changes

There is consistent evidence that the frontal areas of the brain are the most affected by the use of psychotropic substances and, in general, users tend to present changes in executive functions and their components, as well as difficulties in attention and memory. These changes are consequences of the use, but can also be previous, and can even contribute to the development of SUD (Czermainski, Willhelm, Santos, Pachado, & Almeida, 2017; Diehl et al., 2018; Freitas, Joaquim, Tabaquim, & Camargo, 2016; Hess, Silva, & Almeida, 2017; Matos, Lima, Fernandes, & Toma, 2018).

To explore this relationship, it is important to understand what executive functions are, although there is no unanimous concept in literature. In short, executive functions usually involve a set of skills that, in an integrated way, allows individuals to plan their behaviors in a goal-oriented way, to evaluate the results of these

behaviors, and to replace ineffective strategies with more efficient ones. This dynamic allows solving problems in the short, medium and long term. Among the components of executive functions described in the literature are the following: planning, inhibitory control, decision-making, cognitive flexibility, operational memory, and fluency (Fuentes et al., 2014; Malloy-Diniz, Fuentes, Mattos, & Abreu, 2018).

These skills directly influence the ability to self-control behaviors, which is necessary for the full rehabilitation process, as already mentioned. Losses in these components can specifically hinder adherence to treatment, such as spontaneous search, decreased consumption, or abstinence from psychotropic substances, in addition to encouraging lapses and relapses. This relationship denotes the importance of NPA in patients with SUD (Lopes et al., 2019; Hutz et al., 2016).

There are studies that seek to draw a neuropsychological profile according to the substance used, but there are methodological difficulties, such as controlling the quantity, frequency, and substances of use of participants. In particular, crack and cocaine have been the target of much research, due to the devastating context in which they are associated, which is common to lead to early death. The chronic use of these stimulants is related to poor cognitive performance. However, no unique damage profile has been found. In any case, its use has been associated with attention, memory, learning, and executive function deficits (Czermainski et al., 2018; Freitas et al., 2016; Hess et al., 2017; Lorea, Fernandez-Montalvo, Tirapu-Ustarroz, Landa, & Lopez-Goni, 2010; Madoz-Gurpide & Ochoa-Mangado, 2012; Matos et al., 2018; Oliveira et al., 2009; Reske, Delis, & Paulus, 2011; Soar, Mason, Potton, & Dawkins, 2012; Woicik et al., 2009).

Some literature reviews have pointed out that alcohol use is also associated with deficits in executive functions, such as in the decision-making component, besides concentration, attention and memory, and critical thinking, among other functions (Kovács, Richman, Janka, Maraz, & Andó, 2017; Rigoni, Susin, Trentini, & Oliveira, 2013). The use of *cannabis* has also been associated with cognitive deficits, such as executive dysfunction, attention, and verbal memory, even after prolonged abstinence (Broyd, van Hell, Beale, Yücel, & Solowij, 2016).

Neuropsychological Tests and Necessary Care

The use of neuropsychological tests must be contextualized, since it will depend on patients' general conditions, involving their physical well-being, motivation, and commitment, among other variables. Therefore, it is up to the professional to evaluate the best moment to apply the tests, since a reevaluation involves implications. For example, learning a task performed more than once may generate the ceiling effect, which occurs when a task is very easy for the patient. In a retest, there may be an increase in formal performance, without necessarily an improvement in the respective functions assessed, but by learning (remembering) the activity previously performed (Malloy-Diniz et al., 2016).

In addition, the floor effect, which consists of a performance below the patient's capacity, may occur. In the case of a retest, a worsening of formal performance, not caused by a decline in the functions involved in the task, may occur. This effect may be mainly associated with the patients' lack of interest in performing a task that is no longer new. In order to prevent or at least mitigate these effects, one should research and respect the time limits that the literature indicates for the retest with each specific instrument or use similar instruments, which will also have implications, since they are different, including different normative samples (Malloy-Diniz et al., 2016).

As for the tests themselves, the assessor must know them and know how to choose the most suitable ones for his patients, considering, for example, their cultural context and possible physical and cognitive limitations. Regarding the test, one should know the characteristics of the normative sample, such as age, education, gender, regions of the country, and socioeconomic level (CFP, 2018; Hutz, Bandeira, & Trentini, 2015; Hutz et al., 2016). There are tests that are commercialized and others that are available in books and scientific articles. Considering the example of Brazil again, as in the writing of neuropsychological reports, there are guidelines from certain professional Councils on the use of the tests, and the evaluator should be informed about the legislation in effect at the time of the NPA.

Above all, the restricted use by professional Councils should be the target of attention, to prevent the assessor from practicing illegal exercise of another profession for misinformation. As far as psychology is concerned, for example, in Brazil there are instruments exclusively used by psychologists, and this list is on the page of the System for the Assessment of Psychological Tests (Sistema de Avaliação dos Testes Psicológicos; SATEPSI), regulated by CFP Resolution no. 09 of 2018. As for psychologist assessors, they must consult whether each test is favorable, that is, with use authorized by the CFP, or unfavorable, considering its use unethical in the assistance. The SATEPSI also lists the deadline of the psychometric studies of each instrument.

Literature reviews indicate that the tests considered classic in NPA are also the most used in the evaluation of patients with SUD, such as Rey Complex Figures, Wechsler Intelligence Scale for Adults (WAIS), Wisconsin Card Sorting Test (WCST), and Stroop Test, among others widely described in the literature (Czermainski et al., 2017; Hess et al., 2017; Lopes et al., 2019). Besides these tests, there are instruments less described in the Brazilian literature, but also with signs of sensitivity to deficits related to SUD (Czermainski et al., 2018), for example:

Wechsler Abbreviated Scale of Intelligence (WASI; The Psychological Corporation, 1999; Brazilian version adapted by Trentini, Yates, & Heck, 2014): it consists of a brief version of the traditional Wechsler Scales for intelligence assessment. It is composed of four subtests: vocabulary, cubes, similarities, and matrix reasoning. These subtests correspond to the same as the complete scales, but with different internal items. It provides an adequate alternative for retesting, decreasing the ceiling effect by learning as well as the floor effect by disinterest. It is an instrument of exclusive use by psychologists, with Brazilian norms allowing the use in participants from 6 to 89 years of age.

Five Digit Test (FDT; Sedó, 2007; Brazilian version of Sedó, De Paula, & Malloy-Diniz, 2015): it is an alternative version to the traditional task of Stroop, because it uses the interference paradigm with numbers and quantities, instead of reading and naming colors. It evaluates inhibitory control, cognitive flexibility, processing speed and the ability to alternate the focus of attention. It can be applied to people fluent in any language or with reading difficulties, even illiterate people, which is not uncommon in the SUD context. The FDT consists of four parts: reading, counting, inhibition, and alternating. This instrument is for the private use of psychologists, and the Brazilian norm comprises participants from 6 to 92 years of age.

Other neuropsychological instruments can be used in the evaluation of patients with SUD, especially considering that neurological and/or neuropsychiatric conditions are recurrent comorbidities. Some possibilities are:

Barkley Deficits in Executive Functioning Scale (BDFES; Barkley, 2011; Brazilian adaptation by Godoy et al., 2015): its objective is to evaluate possible deficits of executive functions in daily activities, through self-reporting. The items involve skills, such as time management, organization and problem-solving, self-control, self-motivation, and self-regulation of emotions. It is intended for adults between 18 and 70 years of age, not restricted and can be applied individually or collectively. However, in the context of SUD, the individual application with the monitoring of the evaluator is suggested, considering that there may be some cognitive difficulty. Like any instrument that uses self-reporting, the patients' capacity of self-criticism can be evaluated.

Benton Visual Retention Test (BVRT; Benton Sivan, 1992; adapted for Brazil by Salles et al., 2015; Segabinazi et al., 2020): the Brazilian adaptation has two forms, each composed of ten stimuli containing main and peripheral geometric figures. First, the participant must memorize and reproduce one stimulus at a time, after observing them for 10 seconds. In the sequence, the individual must copy the stimuli, with them exposed. The BVRT is for psychologists only, and the sample of the Brazilian standardization comprised participants from 7 to 30 years of age and elderly people between 60 and 75.

Finally, it should be noted that the instruments described here were only a few examples. The evaluator should consider the clinical indication of the use of these tests, besides considering the ethical and legal aspects of an interdisciplinary nature.

Final Considerations

The SUDs are associated with neuropsychological changes that hamper adherence to treatment, especially losses in executive functions, including impulse planning and control. These alterations may be previous and tend to be aggravated with the use of psychotropic substances. The NPA is a process which involves much more than the application of tests, since it depends on and promotes bonding, reflection, and motivation, thus having a therapeutic action in itself when the process is well

conducted. This assessment must define the cognitive profile of patients, with the identification of preserved and impaired abilities, not only through tests but also through interviews, ecological tasks, and behavior observation.

Establishing patients' cognitive profile contributes to a differential diagnosis, besides guiding the direction of the therapeutic plan, which should include an integral rehabilitation. Patients' context, such as age, cultural level, social support, neurological and/or psychiatric comorbidities, and emotional issues, as well as substances, frequencies, and quantities of consumption, among other variables, must be considered.

Both the areas of SUD and neuropsychology are interdisciplinary and require different knowledge from professionals working in these fields. In particular in Brazil, the NPA involves specific issues of the professional councils. Following the NPA, neuropsychological rehabilitation, which is also an interdisciplinary area, has as its primary objective to reverse cognitive deficits, or at least minimize them, considering brain plasticity.

Neuropsychological rehabilitation must seek the highest possible level of patient functionality, which may involve mainly ecological tasks, with planning and decision-making exercises, impulse control, reading and writing tasks, mnemonic activities, schedule organization, and artistic skills, among others. The constant development of social skills tends to contribute to social inclusion, and links with people who do not use psychotropic substances can play an important role in rehabilitation as a whole. A change in the patient's lifestyle must be sought, planned in conjunction with patients and their family, which may include a professional reorganization, among many other changes in this system.

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Chapter 6
Drug Screening Instruments for Substance Abuse (ASI, ASSIST, AUDIT, DUSI)

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Introduction

Some people who make use of psychotropic substances develop patterns that can create individual and social harm, such as health problems, engagement in risky behaviors, involvement in accidents, exposure to situations of violence, among others. Since this is a complex issue determined by multiple variables, a multidimensional assessment is necessary for the identification of cognitive, emotional, and contextual factors related to the functioning of users and their patterns of drug use and related aspects (Bedendo, Andrade, Opaleye, & Noto, 2017; Schaub et al., 2018).

In order to contribute to the identification and treatment of these disorders, some instruments were developed to detect them. In the evaluation process, psychometric instruments such as scales and tests can help in the survey of complementary information to the interviews (De Micheli, Andrade, Silva, & Souza-Formigoni, 2016). Besides minimizing the interference of subjective variables in the process of data collection and observation recording, these resources can be used for several purposes: screening, diagnosis, impaired functions, treatment planning, prognosis, quantification of the evolution of the chart, measurement of the impact of interventions, among others. Thus, more personalized, assertive, and effective diagnoses, referrals, interventions, and prognoses are possible (Andrade et al., 2016; De

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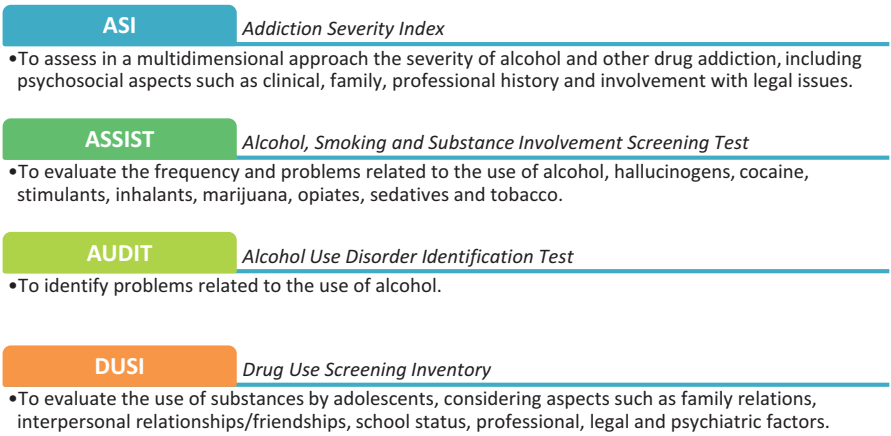

Fig. 6.1 Instruments for the screening of drug use

Micheli & Sartes, 2017; Fernandes, Colugnati, & Sartes, 2015; Kessler et al., 2010; Lopes, Andretta, & Oliveira, 2019; Pupo, Ribeiro, & Marques, 2012).

This chapter aims to present and describe the structure and main characteristics of the *Addiction Severity Index* (ASI); the *Alcohol, Smoking, and Substance Involvement Screening Test (*ASSIST); the *Alcohol Use Disorder Identification Test (*AUDIT); and the *Drug Use Screening Inventory (*DUSI) – instruments used in the process of screening, characterization, and diagnosis of substance use disorders, that are adapted, developed, or validated for the Brazilian population (Fig. 6.1).

ASI – *Addiction Severity Index*

The *Addiction Severity Index* (ASI) is a multidimensional instrument for the assessment of issues related to the abuse of psychotropic substances that encompasses dimensions, such as severity and need for treatment for clinical and psychosocial problems. It was developed in 1979 by Thomas McLellan and collaborators of the Center for Studies of Addiction in the United States. It consists of a semi-structured interview that provides an integral evaluation of the current (<30 days) and past (>6 months) situation of the patient, understanding the intensity of problems in various aspects of his life: medical, psychiatric, sociofamily, occupational, legal, alcohol consumption, and use of other drugs. Generally, ASI is used at the beginning of treatment, and its results provide an overview of the condition and its severity, which is of paramount relevance in the clinical context, especially for the planning of interventions and evaluation of results (Fernandes et al., 2015; Kessler et al., 2010).

The sixth version of the *Addiction Severity Index* (ASI-6) was validated for use in Brazil by Kessler (2011). In this version, items were reformulated or excluded that demonstrated low reliability in their psychometric properties in previous

versions. Also, in the main items that evaluate the functional basis of the respondent, the interval of six months was added to the previously stipulated 30-day period. Also, the items were better structured, which facilitates training but also allows the clinician to make adaptations for a better understanding by the respondent. The application of this tool can be useful for the health system, helping in the evaluation process of people with problems arising from the use of substances. The ASI-6, in addition to being designed for patient screening, allows the patient to be followed at various stages of treatment, allowing the results of interventions to be measured lengthwise. Thus, it can be used to evaluate treatment effectiveness and redirect therapeutic actions (Kessler, 2011; Kessler et al., 2010; Lopes et al., 2019).

There is a changed version of ASI aimed at the adolescent public: Teen-ASI, which was adopted since the adult version did not cover essential aspects of adolescence, such as peer relations and school activities (De Micheli & Sartes, 2017).

ASSIST – *Alcohol, Smoking, and Substance Involvement Screening Test*

There are some instruments for early detection of drug use in health-care services, a screening test for involvement with alcohol, tobacco, and other substances, the *Alcohol, Smoking, and Substance Involvement Screening Test (*ASSIST) (De Micheli, Formigoni, Ronzani, & Carneiro, 2017; Henrique, De Micheli, Lacerda, Lacerda, & Formigoni, 2004; Pupo et al., 2012; Silva, Lucchese, Vargas, Benício, & Vera, 2016).

It is a structured questionnaire that contains eight questions related to the use of nine classes of substances (alcohol, hallucinogens, cocaine, stimulants, inhalants, marijuana, opiates, sedatives, and tobacco). The questions refer to the following: (a) frequency of use (in life and the last 3 months), (b) problems associated with use, (c) concern on the part of people close to them regarding use, (d) harm in performing daily activities, (e) unsuccessful attempts to reduce or stop use, (f) compulsion, and (g) intravenous (injected) administration (De Micheli et al., 2017; Henrique et al., 2004).

Each answer corresponds to a score, which varies from 0 (zero) to 4 (four), and the total sum can vary from 0 (zero) to 20 (twenty). The results are analyzed according to the score ranges below (Table 6.1) (Henrique et al., 2004).

Table 6.1 Meaning of scores

Alcohol		Other drugs		Interventions
0-10	Low risk	0-3	Low risk	Preventive protocol
11-26	Moderate risk	4-26	Moderate risk	Short speech
>27	High risk	>27	High risk	Specialized treatment

Source: Adapted from De Micheli et al. (2017)

Some advantages of ASSIST are the standardized structure, fast application, the approach of several classes of substances, straightforward interpretation, and the possibility of use by several health professionals (Henrique et al., 2004; Pupo et al., 2012). Furthermore, it allows the clinician to obtain an overview of the pattern of consumption (use, abuse, and dependence) of the nine different drugs, which may contribute to the treatment design.

AUDIT – *Alcohol Use Disorder Identification Test*

Alcohol is considered the most consumed psychotropic substance in the world. It is a legal one, whose use is widely accepted in most countries, closely related to the traditions and rituals of several cultures throughout history, and is currently present in several socialization contexts. On the other hand, it is associated with a range of individual and social problems, such as cardiovascular diseases and other health problems, traffic accidents, situations of violence, among others (Barbosa, Andrade, Oliveira, & De Micheli, 2018; Silva, Messias, Andrade, Souza, & Guimarães, 2019; Souza, Andrade, Rodrigues, Nascimento, & De Micheli, 2015).

Alcohol abuse is, therefore, a significant public health concern. Given this, in order to track and identify problematic patterns of use of this substance, screening and diagnostic instruments have been developed, among them the *Alcohol Use Disorder Identification Test* (AUDIT) (Martins, Manzatto, Cruz, Poiate, & Scarin, 2008; Mattara, Ângelo, Faria, & Campos, 2010; Santos, Gouveia, Fernandes, Souza, & Grangeiro, 2012).

AUDIT was developed in the 1980s by the World Health Organization and evaluated for two decades in a project involving six countries (Australia, Bulgaria, the United States, Mexico, Norway, and Kenya), aiming to meet different sociocultural and economic realities. Today, this tool is one of the most widely used tools in the world to detect patterns of alcohol abuse and dependence (Mattara et al., 2010; Santos et al., 2012).

It consists of 10 (ten) questions concerning the quantity, frequency, and presence of intoxication/drinking. The total sum of 8 (eight) to 40 (forty) points signals excessive consumption of alcoholic beverages with high health risks (Mattara et al., 2010; Pupo et al., 2012) (Table 6.2).

Table 6.2 Meaning of scores

Level of use	Scores	Risk level	Interventions
Zone I	0-7	Low risk	Primary prevention
Zone II	8-15	Moderate risk	Basic orientation
Zone III	16-19	Harmful use	Brief intervention and monitoring
Zone IV	20-40	High risk/dependency	Referral to specialized service

Source: Adapted from De Micheli et al. (2017)

Studies show that AUDIT has satisfactory reliability, even when applied to adolescents, and is characterized as a self-filling resource, quick to apply, and easy to understand (Martins et al., 2008; Mattara et al., 2010). In the single health system, it can be applied by professionals from any area of health and serve as a subsidy to request more detailed exams, referrals, and brief interventions already in the consultation itself.

DUSI – *Drug Use Screening Inventory*

Adolescents represent a portion of the population, notably vulnerable to substance use and its consequences. Since this is a development phase characterized by various changes, including the maturation of brain structures and functions related to situation assessment, planning, and decision-making, this is a period in which people are susceptible to three main problems that require attention and care from the family and education and health professionals: (a) *social*, which refers to the nonfulfillment of daily obligations (b) legal, which refers to transgressions arising from the purchase, use, or even commercialization of drugs; and (c) health, which refers to the possible physical and emotional health problems associated with the early use of these substances that alter the functioning of the central nervous system and the organism as a whole (Martins et al., 2008).

Given that substance use is starting earlier in the adolescent population (Carlini et al., 2010), leading to many possible individual and collective consequences, an assessment to identify risk behaviors is needed for screening and referrals more appropriate. Evaluation tools allow time savings, standardization, reliability, and, therefore, better results regarding the impact of interventions that, with the application of such tools as a complementary method of analysis, can become more personalized, integrative, and efficient. Among the instruments aimed at the adolescent public is the *Drug Use Screening Inventory* (DUSI), which identifies and evaluates the use of drugs and other areas of life, such as family relations, interpersonal relationships and friendships, school status, and professional, legal, and psychiatric aspects (Lopes et al., 2019; Rosário, 2011).

This tool was originally developed by a researcher in the United States to address the need for a practical and objective tool for the rapid and efficient evaluation of problems related to the use of alcohol and other drugs among adolescents. The DUSI was adapted and validated in Brazil by De Micheli and Formigoni in 2000. It is currently available in 15 (fifteen) languages (De Micheli & Formigoni, 2000; De Micheli & Sartes, 2017; Rosário, 2011). However, since 2013, its use is not in the public domain, being necessary to obtain authorization from the authors of the original version.

The DUSI aims to quantify the intensity of problems referring to 10 (ten) areas, covering the aspects exposed in Table 6.3.

The use of the DUSI is an effective method for screening adolescents who may need intervention due to drug use problems. Its results can help in the planning of

Table 6.3 DUSI areas

DUSI		
Table 1	Frequency of alcohol and other drug use	Investigates the frequency of use of 13 substances in the last month, mainly drugs, and problems due to use
Area 1	Use of substances	Investigates substance use in the last 12 months and the intensity of substance involvement
Area 2	Behavior	Investigates social isolation and behavioral problems
Area 3	Health	Investigates accidents, damages, and diseases
Area 4	Psychiatric disorders	Investigates anxiety, depression, and antisocial behavior
Area 5	Social competence	Investigates social skills and interactions
Area 6	Family system	Investigates family conflicts, parental supervision, and the quality of the relationship
Area 7	School	Investigates academic performance
Area 8	Work	Investigates the motivation for the job
Area 9	Relationship with friends	Investigates social networking, gang involvement, and the quality of relationships with friends
Area 10	Leisure/recreation	Investigates the quality of activities during leisure time

Source: De Micheli and Sartes (2017)

prevention or treatment strategies, and its application periodically allows the monitoring of the framework and progress of interventions. Its main advantages are rapid application, a structure that allows full or isolated use of specific areas, and requiring simple training by the applicators (De Micheli & Sartes, 2017).

In addition to the DUSI, there are other instruments specific to the adolescent population, such as Teen-ASI (briefly presented at the beginning of the chapter). These instruments take into account fundamental adolescent issues that are interrelated and predispose to risk behaviors such as substance use. The choice of appropriate tools can contribute to the design of intervention projects with a focus on prevention, treatment, psychosocial rehabilitation, and health promotion of youth (Rosário, 2011).

Final Considerations

Screening and diagnostic instruments are complementary means of evaluation in users of psychoactive substances (Andrade & De Micheli, 2017). These resources were designed through the need for more reliable and standardized tools to detect and plan more effective interventions. All instruments described above can be used in primary and secondary drug abuse prevention actions. These programs can act to raise awareness and encourage behavior change in order to minimize possible social and health risks and harm that may result from drug use (Henrique et al., 2004).

It is important to note that the use of these tools requires a certain degree of training and knowledge regarding their application and interpretation of data. Moreover, screening and diagnostic tools are *complementary* resources and are not sufficient for the completion of a psychodiagnostic evaluation and the planning of clinical or psychosocial interventions.

In the diagnostic evaluation, besides issues specifically related to the characterization of the pattern of drug use, it is also necessary to evaluate family, sociocultural, and economic issues, possible psychiatric comorbidities (anxiety, depression, stress-related disorders, etc.), as well as neuropsychological aspects (Andrade & De Micheli, 2016; Bedendo, Ferri, Souza, Andrade, & Noto, 2019; Yamauchi, Andrade, Pinheiro, Enumo, & De Micheli, 2019). The latter, precisely, aims at investigating possible losses in cognitive and executive functions, among other factors that, in some way, may influence resistance to treatment and relapse to substance use. Finally, it is necessary to emphasize the indispensability of the joint use of the instruments presented with the clinical interview to reach more complete and assertive diagnostic conclusions (Pupo et al., 2012; Silva, Andrade, & De Micheli, 2018).

For practical strategies to be formulated, a multidimensional evaluation is required that includes various research methods. In this way, it will be possible to develop comprehensive means of prevention and treatment with more significant potential for effectiveness and efficiency in the short, medium, and long term.

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Part III
Drug Use, Abuse and Dependence from the Perspective of Psychotherapies

Chapter 7
Substance Use Disorders From an Analytical-Behavioral Perspective

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Introduction

Behavior analysis (BA) is a popular approach in the field of psychology that proposes an observable event as the object of study as opposed to unobservable metaphysical events, such as the mind or the unconscious (Matos, 1995). In BA, behavior is be defined as the interaction between the organism's manifestations (responses) and the changes in the environment that influence the organism's activities (stimuli) (De Rose, 1999). Thoughts, motor behaviors, feelings, predictions, dreams, etc., are all conceptualized as behaviors because they are manifestations of the individual that influence and are influenced by changes in the environment (Skinner, 1953). The model of selection by consequences predicts that the environment determines the behavioral repertoire of organisms through three levels of selection: phylogenesis, ontogenesis, and culture (Skinner, 1981). Psychopathologies can also be interpreted as a subject's behavior in interaction with their environment (Vilas Boas, Banaco, & Borges, 2012). We will present the analytic-behavioral model for understanding human psychological phenomena and a possibility of studying a specific psychopathology, substance use disorders (SUD), from this perspective.

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Behavior Analysis (BA)

The BA is divided into three interrelated subareas: radical behaviorism (RB), experimental analysis of behavior (EAB), and applied behavior analysis (ABA) (Carvalho Neto, 2002). RB is the central philosophy of BA and proposes a psychological approach with the precepts of natural sciences (Skinner, 1974). Some of the main assumptions of RB are determinism, materialistic monism, and experimentalism. Determinism postulates that the phenomena of nature are caused by variables and they are not random. Therefore, the objective of the scientist is to identify the events that determine his object of study, which allows for the prediction and control of the object. For BA, the behavior is determined by the genetic and environmental history of the organism. Behavior analysts intend to predict and control behavior. Materialistic monism refers to the physical nature of events, which applies to humans. Physical man interacts with the physical environment within the same dimension, but it is not possible to include metaphysical variables in the explanation of behavior. Private events are understood as covert behaviors (imagine a peregrination, feel anguished), which are governed by the same laws as public behaviors (singing an opera, teaching a class) and produced in relation to the environment. The difference between the two is found in their accessibility, with public behavior being accessible to more than one organism and covert behavior only being accessible to the one who executes the behavior (Skinner, 1945). Events that cannot be observed by the subject himself (unconscious, cognitive structure) are discarded because they are explanatory fictions (Skinner, 1953). Experimentalism refers to the defense that scientific concepts should be derived from experimental research.

EAB is the basic research method and preferred mode of BA for investigating organism-environment interactions (Todorov, 1982). The single-subject design, characteristic of the approach, consists of isolating the experimental subjects in a controlled environment while continuously evaluating the behavior of interest until stability is obtained. Then researchers can manipulate a variable of interest (presenting, removing) and compare the response of the organism at different times (Sidman, 1960). The relationship of dependence identified between the environment (the manipulated variable) and behavior is called contingency of reinforcement (De Souza, 1999). The behavioral concepts derived from these types of experiments are better understood when presented as reinforcement contingencies.

Consider the following example: in a teaching laboratory, students record the responses of a rat in an experimental box (sniffing, scratching) until they obtain stability (the rat behaves, but the frequency and tendency remain stable). Then, they manipulate a consequent event of presenting food in a bar which can be pressed by the rat and observe the change in the rat's response (the frequency of bar presses). A relationship of dependence is established between response and consequence (food is presented if pressing on the bar occurs) and between consequence and the effect on future responses (maintenance of the response depends on the arrival of food), illustrating the concept of reinforcement (Matos & Tomanari, 2002). "Reinforcement" is defined by the increase in the probability of a behavioral

occurrence that is followed by certain consequences (Catania, 1998/1999). This concept is applicable when delineating a relationship of dependency between a consequent environmental change and the activity of the organism; a reinforcement contingency. Note that experimental subjects may respond differently to manipulated variables, learning faster, presenting a shorter latency time between the stimulus and the response, etc. However, behavioral processes, the way organism-environment relationships are established and described in concepts, are universal. BA argues that the history of organism-environment interactions and the repertoires produced in this history are idiosyncratic (Skinner, 1974).

Scientific concepts enable scientists to better understand the events that unfold in our world. ABA applies the philosophical system of RB and the concepts described by EAB on issues related to human behavior. While the experimenter aims to describe behavioral processes, the applied behavior analyst is interested in making the subject's repertoire capable of producing positive reinforcers and eliminating aversive stimuli in the short and long term (Ferster, 1972). The former selects behaviors that are easily recordable (pressing a bar, pecking a disc), and the latter focuses on behaviors that bring harm to the individual and/or to the social environment. Both value the rigor of empirically verified behavioral concepts, such as the demonstration of control of the intervention over the target behaviors, and the technological description of procedures that enable replication. However, the ABA success criterion is determined by socially important change (the husband should *interrupt* and not *diminish* the aggressions against his wife) and the generalization of progress to different environments (be gentle with children and professional colleagues), repertories (improve self-control, communication), and over time (the change should be perennial and not temporary). The identification of new concepts, although possible, is not the priority of the applied professional and those who seek his/her services (Baer, Wolf, & Risley, 1968).

The evaluation and intervention tool of the BA is the functional analysis of behavior.[1] Assessments based on topography[2] (appearance) do not help the behavior analyst because they do not connect responses to environmental determinants and therefore do not enable an intervention (Skinner, 1974). A man running (topography) could be doing physical exercise or running away from the police (positive and negative reinforcing consequences respectively). Alternatively, asking for a hug and creating a conflict (topographies) could be kept by equal consequences (producing attention). Responses with equal topographies may hide different functions and responses with different topographies may have equal functions (Skinner, 1953). Therefore, regardless of appearance, the goal of the analyst should be to identify

[1] Different terminologies (contingency analysis, behavioral assessment, etc.) and concepts (professional behavior, assessment results, etc.) for functional analysis of behavior are found in the literature (Andery, Micheletto, & Sério, 2001). The most widespread nomenclature was chosen.

[2] Topography is used as the appearance of the response. However, from the Latin *topic* means local, which raises a discussion as to whether the term is accurate. A recent nomenclature, behavioral phenotype, suggests that behavior may have the same topography (occur at the same location) and different appearances (phenotypes).

Table 7.1 The three subareas that form behavioral analysis

Name	Radical behaviorism	Experimental analysis of behavior	Applied behavior analysis
Area	Philosophy	Basic research	Social application
Description	Proposes a behavioral science based on determinism, materialism, and experimentalism	Identification of laws governing the interactions between organism and environment	Application of behavioral concepts to human problems

what are the antecedents and consequences that maintain the behaviors of interest (Matos, 1999) (Table 7.1).

The Model of Selection by Consequences

Behavioral analysts investigate how the history of interaction with the environment develops the repertories of organisms (Skinner, 1953). The model of selection by consequences details the influence of the environment on behavior through three levels of selection: phylogenesis, ontogenesis, and culture (Skinner, 1981). The levels interact with each other to form behaviors, but we arbitrarily highlight the one that best describes the concepts studied. We will describe each level and the most relevant behavioral processes for this chapter.

The phylogenesis, or survival history of a species, determines the anatomy, physiology, and, of greater interest to behavior analysts, innate behavior patterns. Historically, physical and behavioral components varied and came into contact with the environment. The organisms that possessed the most adaptive characteristics survived and reproduced, transmitting these characteristics. Conversely, subjects with less adaptive characteristics were less likely to survive, and, consequently, these were transmitted on a smaller scale until they disappeared (Matos, 1999). Unconditioned reflex and unconditioned motivational operations (MO) were selected for survival value.

Unconditioned reflexes are defined as the relationships determined by the phylogenesis between unconditioned stimuli (US) and unconditioned responses (UR) (Catania, 1998/1999). For example, a man gets excited when he comes into contact with sexual stimulation. MOs are events which temporarily alter the function of stimuli (make them more or less reinforcing or aversive) and change the frequency of responses related to these stimuli (Miguel, 2000). Food deprivation is an MO that increases the reinforcing value of food and the responses that produce it. By eating, satiation decreases the reinforcement value and frequency of eating responses (the first taste is sweet, the fifth nauseating) and increases the value of the other reinforcers available in the environment (Heyman, 1996). This leads the individual to engage in behaviors that produce these other incentives.

Natural selection prepares animals for stable environments but does not provide learning possibilities for new situations. Organisms that were sensitive and

responded to changes in the environment survived, which selected their own sensitivity to learning new relationships and behaviors. This leads us to ontogenesis, or the life history of an individual organism. The behavioral psychologist is interested in the three levels of selection but intervenes on ontogenesis; phylogenesis and culture are studied by biology and anthropology, respectively (Skinner, 1981). Respondent conditioning is a process that allows organisms to respond to new stimuli. Pairing of stimuli occurs when a neutral stimulus (NS) is presented before US, causing the stimulus to acquire a conditioned stimulus function (CS), which elicits conditioned responses (CR) (Catania, 1998/1999). For example, a human can get excited when in contact with his/her spouse's perfume if there was a history of pairing with sexual stimulation.

In the operant selection, the organism issues responses and changes the environment. The change retracts over the organism and changes the probability that responses will occur in the future (Catania, 1998/1999). Consequences increase the probability of behavior occurring like when a young person turns on the radio (response) to listen to music (positive reinforcement) or leaves home (response) to run away from his parents (negative reinforcement). Alternatively, punitive consequences decrease the frequency of behaviors, for example, when a woman says her opinion to her boyfriend (response) and is criticized (positive punishment) or wears a ripped pair of pants (response) and loses her cell phone (negative punishment). The antecedent events present when the response-consequence relationship occurs are marked and also influence the probability of the response. The radio (discriminative stimulus) evokes the behavior of turning it on, and a critical boyfriend (discriminative stimulus for punishment) decreases the probability of his partner expressing her point of view.

Still in ontogenesis, we highlight observational learning, imitation, and verbal behavior. Observational learning includes discriminating subtleties in the behavior of others, the consequences of this behavior, and one's personal history with these effects. In humans, there are likely to be verbal components (Catania, 1998/1999). Someone can observe an athlete doing exercises and start working out by valuing health and physical disposition. Imitation occurs when the imitative behavior corresponds to the observed behavior (Catania, 1998/1999). The subject who imitates may not be aware of the variables that affected the observed behavior, such as someone crossing the street because another person crossed, even with the red traffic light. Finally, verbal behavior, exclusive to human beings, is operant behavior mediated by properly trained humans (Skinner, 1957). A person asks his or her spouse to "make some soup" and has the behavior of asking for strength when the listener prepares dinner (Skinner, 1957). We say that the one who responds to the request has the behavior governed by rules (Zettle, 1990).

The cultural level selects behaviors according to their survival value for the group (Skinner, 1981). Verbal behavior has enabled us to learn from each other more quickly. Instead of "finding out" whether foods are healthy or harmful, we can follow instructions from a nutritionist, read articles, watch video lessons, etc. Health, mood, and longevity maintain proper eating behavior and provide for practices to be taught to the next members ("don't eat so many fried foods," "soda, only

Table 7.2 The three levels of selection by consequences proposed by Skinner (1981)

Selection level	Phylogenesis	Ontogenesis	Culture
Area	Biology	Psychology	Anthropology
Description	Selected behaviors in the history of the species	Selected behaviors in the history of the individual	Selected behaviors in cultural history

at the weekend"). Control agencies, such as the government (Skinner, 1953), reinforce the desired behavior (award, medal) that brings benefits, punish unwanted behavior (fine, incarceration) that brings harm to the group, and thus propagate cultural practices further. Honoring an attitude classified as honorable (going to war, defending measures that protect the vulnerable) strengthens honorable behavior and increases the chance of the behavior being passed on to others (Table 7.2).

Substance Use Disorders

Substance use disorders (SUD) are psychopathologies described in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, APA, 2013) that have the characteristic of continued psychoactive substance (PAS) use, despite the problems they caused. DSM-5 lists ten classes of substances with potential for abuse: alcohol; caffeine, cannabis; hallucinogens; inhalants; opioids; stimulants; tobacco; a group formed by sedatives, hypnotics, and anxiolytics; and other substances. The manual conditions the severity of the disorder to the number of diagnostic criteria met within 12 months. For two or three criteria, a mild disorder is considered, four or five for moderate, and six to 11 for severe.

Behavior analysts tend to criticize the DSM-5 on four common reasons. First, people with different diagnostic criteria can be labeled with the same psychopathology (Meyer et al., 2015). For example, the first subject presents criteria 1 and 2, and the second, criteria 4 and 6. Labeling individuals with different repertories goes against BA, as it obscures the individuality of each person. Instead of identifying the history of interactions with the environment and the specific behaviors that form each client, we run the risk of understanding and treating individuals in a similar way.

Secondly, although the introduction presents the DSM-5 as atheoretical with the objective of improving communication among mental health professionals, the term "mental disorder" in the title suggests a philosophical basis incompatible with BA. By classifying an individual as having a mental disorder due to a set of behaviors that we consider psychopathological, we reinforce the mind-body duality, where metaphysical phenomena (disorders) cause physical (behavioral) alterations. From an analytic-behavioral point of view, psychopathologies are not the result of mental disorders that should be diagnosed. This hurts the monistic and materialistic principle that phenomena should participate in the same physical dimension (Banaco, Zamignani, & Meyer, 2010).

Third, the diagnostic criteria in the manual are topographic in nature and, for the most part, do not specify the variables controlling behavior (Banaco et al., 2010). As previously mentioned, responses with similar topographies can be determined by different contingencies. For example, a man could display aversive recurrent thoughts (a diagnostic criterion of obsessive-compulsive disorder) about his sexuality ("Am I gay? How can I be sure if I am or not? What if I go out with a man to test myself?"). The professional who ranks behavior based on topography would not be in a position to propose changes. Obsessions may be caused by the wife's social reinforcements, usually affectively distant (she tries to alleviate her husband's suffering) or temporarily eliminate his professional activities (he gets a medical certificate to get away from work). To interrupt the obsessions, should we teach the client to interact in an alternative way to obtain attention and affection? Or install the desired professional repertoire and frustration tolerance in the face of adversities that life has imposed on him? Only the identification of controlling variables, not topography, allows effective behavioral management.

Fourth, the term "statistical" refers to the idea that deviant behaviors are abnormal in themselves when compared with the population average (Banaco et al., 2010). In contrast, BA understands that all behaviors are the result of the interaction between the three levels of selection (Skinner, 1981). Psychopathologies are interpreted as a set of behaviors in an individual's repertoire governed by behavioral science laws. They differentiate themselves from other behaviors because they cause harm to the individual and/or to the social environment in which he or she participates, not because they have a psychopathological essence or form in themselves (Vilas Boas et al., 2012). The obsessions exemplified above would be controlled by the same laws as other behaviors classified as healthy, such as riding a bicycle and going to a restaurant, differentiating themselves by reducing positive reinforcement and increasing aversive stimulation in short and long term.

To study psychopathologies,[3] according to the analytic-behavioral perspective, it is necessary to decompose a psychopathological class into responses (not to label a subject as "narcissistic" but to isolate each response classified as narcissistic). It is also important to identify the possible environmental determinants of each one of them in basic and applied research (for an experimental model of schizophrenia, see Silva, Guerra, & Alves, 2005). In this context, SUD can be interpreted as a set of individual responses that include the consumption of PAS in a frequency or quantity that produces losses, but are not limited to that behavior. We will present some of the behaviors related to SUD and the evidence that suggests which are the controlling variables. We will highlight the level of selection that best describes each behavior.

[3] Manifestations classified as psychopathologies symptoms (delirium, hallucinations, etc.) can be maintained by reinforcement contingencies; however, BA is not unaware that organisms not medically intact may respond differently to the environment. Neurophysiological alterations alter the sensitivity to the environment and consequently the behavior emitted; however, the behavioral laws remain the same (certain antecedents may evoke mood swings, boosters strengthen delusional verbalizations, etc.).

Phylogenesis

PASs have an innate potential for abuse. BA interprets them as stimuli that affect the user's behavior in respondent contingencies (Siegel, 2005) and operant contingencies (Schuster, 1994). In respondent contingencies, we classify them as unconditioned stimuli that elicit unconditioned responses, the responses being the characteristic effects of the drug. For example, cocaine elicits sensations of euphoria, and in a second moment compensatory responses, usually contrary to the initial effect, occur as depressive symptoms. Unlike the unconditioned stimuli that were selected during phylogenesis (food, sex), drugs have no survival value and are anomalous reinforcers (Skinner, 1989). Heyman (1996) points out the PASs anomalies:

- *Immediacy:* Unlike other stimuli, substances of abuse produce immediate sensations. It is quicker to obtain satisfaction by smoking crack than by performing daily running workouts to a pleasant level (initially it can be aversive, with pain, tiredness, frustration to reach results, etc.).
- *Magnitude:* Other reinforcers (e.g., water) can have an immediate effect, but their magnitude (intensity) is not comparable to that of a PAS (e.g., cocaine).
- *Satiation:* The PASs do not have the same satiation mechanism as the primary reinforcers. By consuming them, their reinforcement value decreases, but the other decrease even more. Without the "self-regulation" that distributes responses on different reinforcers depending on the MOs, the user can continue consuming the drug until he or she becomes exhausted, spends all the money, or overdoses.
- *Withdrawal syndrome:* The deprivation of sleep, water, and food, essential reinforcers for survival, produces very unpleasant body states for the subject. The PASs, even though they are not necessarily abnormal reinforcers, can produce the phenomenon of withdrawal, which is aversive to the user.
- *Changes in the nervous system:* One of the effects of prolonged PAS consumption is a decrease in the value of reinforcements for the individual, which can have a brain substrate. For example, a user consumes cocaine, and instead of only the reinforcer value of cocaine decreasing, the value of other boosters, such as food and sex, also decreases. Essential primary reinforcements have no deleterious effects on the body.

In addition to the history of the species, family groups may have more or less sensitivity to drugs. An experiment conducted by Nichols and Hsiao (1967) demonstrated how sensitivity to morphine can be determined by the previous generation. A group of rats received a three-phase treatment, being (1) morphine; (2) water deprivation, solution with water and morphine cycle; and (3) abstinence. Then, the rats were tested to measure sensitivity to the morphine. The experimental subjects were divided into two groups, the quartile more and the quartile less sensitive to PAS. A selective breeding of each group formed the first generation (G1). The entire process was repeated twice, where G1 was divided into two quartiles and produced G2, and later G2 produced G3. The data pointed out that for each generation, the

Table 7.3 Behavioral processes involved in substance use disorders

Selection level	Phylogenesis	Ontogenesis	Culture
Processes	Unconditioned respondents Family genetics	Respondent conditioning Operant selection Observational learning Imitation Rules/self-rules	Rules Social consequences
Substance use disorder components	Effect of PASs Genetic susceptibility	Withdrawal syndrome tolerance Consuming behavior Evocative contexts	Social environment favorable to the consumption of substances

most susceptible quartile opted for more and the least susceptible quartile opted for less PAS, suggesting that sensitivity is partially determined by genetic history (Table 7.3).

Ontogenesis

The history of interactions between the physical and social environment develops the functions of stimuli and the behavior of each drug user. The respondent conditioning explains the phenomena of tolerance and abstinence syndrome. Without prior learning, a PAS elicits its typical effect and a compensatory effect (related to the body's homeostasis). For example, epinephrine produces tachycardia (effect) and, later, a decrease in heart rate (compensatory effect). PASs, like other USs, are subject to the process of respondent conditioning. Places, objects, and people paired with a drug become CSs and begin to elicit compensatory responses. Tolerance occurs when PAS is used in contact with CSs, and the compensatory effects decrease the expected pharmacological effect (Andrade et al., 2011; Siegel, 2005). The user starts to need more and more doses of the drug. Abstinence syndrome is a result of the unpleasant compensatory effects in the absence of PAS (Siegel, 2005), and a search for the substance may occur to attenuate the uncomfortable state.

Siegel (1975) experimentally tested tolerance and withdrawal. Morphine, a drug with US function for analgesia (decrease in pain sensitivity) and later algesia (increase in pain sensitivity), was used. The research evaluated if the pain tolerance of rats increased when they were exposed to the drug and if the environment, after the respondent conditioning, elicited compensatory responses and produced tolerance. Tolerance was measured by the latency between contact with a hot plate and licking the legs (a typical pain response). The decrease in time signaled that the effects of CSs were present. Four groups underwent a four-stage treatment. On all four occasions, group 1 received morphine and hot plate (it was expected that the compensatory effects would gradually decrease the analgesic effect of the drug).

Group 2 repeated the process, but the surface was at room temperature and was heated only in the last test (the same tolerance was expected as in the first group, as pairing would also occur). The pairing of group 3 happened in a different environment (it was expected that there would be no tolerance). And finally, group 4 received only saline. The results showed that the groups with drugs had a higher initial latency than the control group, showing the analgesic effect of morphine. The groups with pairing showed the same resistance to pain, showing that contact with CSs led to tolerance. Finally, the group without pairing had a higher latency, indicating that without contact with CSs, there were no compensatory effects. It was concluded that tolerance can be explained as a product of conditioned compensatory effects.

In a later study published in the same article (Siegel, 1975), three groups of rats were treated with five different stages. Group 1 performed the drug-environmental pairing and pain sensitivity test, and on the last occasion, morphine was replaced by saline (subjects were expected to present algesia, as there would be compensatory effects without the analgesic effect). Group 2 replaced morphine with saline on all occasions (the rats would show natural resistance). And in group 3, the pairs took place in a different environment (the rats would have the analgesia of the substance). The data indicated that group 1 showed a higher sensitivity to pain than the other groups. Contact with CS without the effect of PASs explained, at least partially, the abstinence syndrome.

PAS consumption behavior is a component of SUD. The BA understands that planning, seeking, and using PASs are operant behaviors evoked by antecedents and maintained by consequences (Miguel, Yamauchi, Simões, da Silva, & Laranjeira, 2015). Different consequences can maintain consumption, such as positive pharmacological and social reinforcers, conditioned reinforcers, and negative reinforcers. In relation to pharmacology, drugs have a positive reinforcement function for several species of animals, serving to maintain behaviors such a press a bar or push a lever (Schuster, 1994). Similarly, a human can smoke marijuana to "get high." The physical (money, room) and social (friends) antecedents are marked as discriminative stimuli (SD) and, in the future, evoke the behavior of self-administration.

Researchers evaluate how PAS-related SDs can evoke consumption. For example, Bachteler, Economidou, Danysz, Ciccocioppo, and Spanagel (2005) conducted discriminative training where rats had access to two bars. Orange essence had SD function for pressing a bar for alcohol and aniseed essence SD for pressing a bar for water. The reinforcers were also paired with light and noise, respectively. At a later stage, the presentation of the SDs was interrupted, and the behaviors were put into operant extinction (pressing either bar produced no consequences). In the last stage, the essences and the light and noise reinforcers were presented again, without alcohol and water. The data showed that the discriminative training was successful (the subjects responded adequately to the SDs), revealing that the previous stimulus related to the drug controlled the rats' behavior. In addition, pressing the bar to obtain alcohol was more frequent in the last two stages, indicating that the drug had a greater influence on subjects than water.

PAS consumption can also be maintained by social reinforcers (Higgins, Heil, & Sigmon, 2007). The pharmacological effect of marijuana may not have a reinforcing function for a certain person; however, it is possible that the consumption is maintained by social reinforcement (approval). The respondent conditioning between marijuana and social reinforcers can lead to PAS becoming a conditioned reinforcer. The result is that the drug user starts to use alone, without support from any group, and could feel "important" because of smoking. The maintenance of drug use by conditioned reinforcers has also been the subject of experimental research. As described above in the study by Bachteler et al. (2005), pressing the bar was maintained by the light conditioned reinforcer, previously paired with alcohol.

Substance use can be maintained by negative reinforcement when the pharmacological effect decreases contact with aversive stimulation (antecedent is an OM called reflexive establishing operation, Miguel, 2000). In a human example, the drunkenness of a young person temporarily decreases contact with interpersonal conflicts. An experiment by Davis and Miller (1963) investigated the effects of the amobarbital substance as a consequence of pressing a bar in aversive contingencies. Pairs of rats were placed in interconnected experimental boxes and received inescapable shocks. Each box had a bar; however, only one member of the pair controlled the application of amobarbital for both (the control subject could press the bar, but nothing occurred). Other pairs were placed in the boxes, with access to the bars and the drug, but did not receive shocks. The results showed that only in the group where the drug was contingent on pressing the bar the frequency of the behavior increased, revealing the strengthening effect of negative reinforcement.

Withdrawal is not necessary for a pattern of abuse to take hold (APA, 2013; Higgins et al., 2007). However, its aversive function may serve as an antecedent and evoke self-administration behavior, maintained by negative reinforcement. In a review by Schuster and Thompson (1969), the authors presented evidence that drug use can be maintained exclusively by positive reinforcement, but when abstinence syndrome develops, the reinforcing efficacy of the drug is amplified.

In imitation, the consumption behavior has a visual SD function for an observer to use drugs. Smith (2012) compared cocaine use among isolated rats, rats in pairs, and pairs where only one member had access to drugs. In pairs, the experimental box was divided by a grid (rats could observe each other). Two schedules of reinforcement were presented separately to all groups in which bar pressing produced cocaine (except for rats without access to cocaine, to which pressing the bar had no programmed consequences). The results suggested that although responses did not produce consequences, the rats without PAS imitated the pairs pressing the bar. More importantly, pairs where both had access to cocaine displayed a higher frequency of responses, indicating that contact with a user or nonuser can increase or inhibit drug use.

Imitation and observational learning can lead to behaviors that facilitate the use of PASs. An individual who observes ineffective social behavior (physically assaulting a third party), academic behavior (not valuing study), and problem solving

Table 7.4 Contingencies of reinforcement components related to substance use disorders

Antecedent	Response	Consequence
Psychoactive substance (US) Substance paired events (CS)	Pharmacological effect (UR) Compensatory effects (UR)	(No consequences)
Places, people, events (SD) Rules and self-rules (SD) Aversive stimulation (MO) Withdrawal (MO)	Think about drugs Seek drugs Consume drugs	Pharmacological effects (R+) (R−) Social reinforcers (R+) Conditioned reinforcers (R+)

(giving up work without having another job in mind) develops behavioral deficits and excesses. Repertoire difficulties drive world events to become aversive (Wilson & Byrd, 2004). Social relationships, school, employment, etc., may evoke the consumption of PASs. This temporarily keeps the person away from adverse events but does not create opportunities to shape and strengthened effective repertoire. The difficulties remain and, with them, drug abuse (Banaco & Montan, 2018).

The rules (instructions from third parties) and self-rules (instructions given by the person him/herself) (Zettle, 1990) can exert partial control over the consumption of PASs. An alcohol-dependent individual may believe that "he can only face his boss when he is drunk." When drinking and confronting the boss, the rules and assertive behaviors are reinforced. Instructions describing the benefits of drinking give hints of the deficits and excesses that a psychotherapist should evaluate (Washton & Zweben, 2006). Another important variable is the coherence between saying and doing (Catania, 1998/1999). By expliciting that "he uses all drugs because he is the craziest in town," a man can consume them so that the group reinforces him ("he is really wild!") and not punish him ("you said you could take more, but it seem it is just trash talk") (Table 7.4).

Culture

Different social environments can value or weaken drug use. For example, in countries where the dominant religion is Islam, drinking alcohol is considered a *haraam* (sin), and the social community has a negative view on drinking (Edwards, Marshall, & Cook, 2003). Iran condemns this behavior with prison, physical punishment (whipping), and even capital punishment for those caught drinking. Conversely, Irish culture encourages the consumption of alcoholic beverages and presents a positive outlook on it. There is evidence that the pattern of drinking is learned from family members and influenced by peers in the educational context (Delaney, Kapteyn, & Smith, 2013).

Analytical Behavioral Treatment for Substance Use Disorder (SUD)

Psychotherapies based on the concepts of BA (Skinner, 1953) and the philosophy of RB (Skinner, 1945) understand that every human being is unique in their history and difficulties presented. Behavioral psychotherapists are interested in the three levels of selection that determine the behavior of their clients but intervene in ontogenesis (Skinner, 1981). Functional analysis of behavior (Matos, 1999) is used to identify the behavioral deficits and excesses that produce suffering (scarcity of positive reinforcers and/or abundance of aversive stimulation in short and long term) (Ferster, 1972), along with the antecedents and consequent events that sustain them. The identification of historical and current determinants of behaviors allows the elaboration of personalized procedures aimed at manipulating the contingencies of reinforcement. Ideally this can alter the subject's repertoire, decreasing the frequency of problem behaviors and, as a priority, increasing the frequency of desired behaviors (Ferster, 1972).

The repertoire classified with SUD includes, but is not limited to, the operant behavior of using PAS. Individuals can have different reasons in regard to consuming behaviors: get pleasure, stop feeling sorrow, more or less effective abilities to deal with the harms, withdrawal syndromes with more or less intensity (or nonexistent) and varying levels of tolerance to cope, sensitivity to new positive reinforcements and dissimilar abilities to produce them, etc. Repertoires that can contribute to the maintenance of SUD (self-esteem, self-confidence, self-control, self-knowledge, responsibility, frustration tolerance, empathy, etc.) and the environmental arrangement in which one lives (family, children, housing, employment, leisure, spiritual community, etc.) are also important. Therefore, the data from experimental researches and successful treatments (Miguel et al., 2015), such as those detailed above, should serve as a set of guidelines for the professional to amplify the stimulus control from which he/she responds in the individual case formulation, not as a set of target behaviors and preestablished procedures. The assessment covers (a) the contingencies that control PAS consumption behavior, (b) the deficits and excesses that increase the probability of consuming, and (c) behaviors in all areas of functioning (Naine, 2017).

In general, the psychotherapist can help the client to identify the aversive stimulation that led them or their family/caregivers to seek treatment (Christopher & Dougher, 2009). In the case that a client does not observe the aversive consequences that substance abuse is producing, the professional should investigate which contingencies inhibit the discrimination of the caregiver (e.g., parents pay their children's rent and he does not relate the consumption of crack to possible dismissal and eviction) (Hunt & Azrin, 1973). Subsequently, the client must be taught to identify the antecedents and consequences that control the consumption of PAS (self-knowledge), discriminate what leads them to use (bars, friends), and avoid then (plan another activity, call someone). Effective behaviors that lead to alternative positive reinforcement should also be learned, both

physical (sports) and social (friends) (Higgins et al., 2007). Behavioral deficits and excesses that are related to consumption (self-esteem, self-confidence, etc.) and difficulties in other spheres (affective, family, educational relationships, etc.) should be overcome. This can lead to effective escape and avoidance behaviors and behaviors that produce positive reinforcements. Programming generalization of psychotherapeutic gains can be implemented with self-control procedures, family orientation, and therapeutic accompaniment (Naine, 2017).

For the interested reader, we suggest Benvenuti (2007) for a treatment based on respondent conditioning, Guilhardi (2010/2013) for a list of possible psychotherapeutic goals in substance abuse cases, Higgins et al. (2007) and Miguel et al. (2015) for two analytical-behavioral treatments of chemical dependence (contingency management and community reinforcement approach), and Aranha and Oshiro (2019) for an adjunct treatment based on the therapeutic relationship (Functional Analytic Psychotherapy). We would like to emphasize that the goals and procedures described in the literature should not serve for a protocol or predetermined understanding of what is called SUD but to broaden the view of the professional to the possibilities of human manifestations to execute functional analysis and individual treatment plan of the client.

Final Considerations

The purpose of this chapter was to present the analytical-behavioral model and the application of this psychology approach to SUD. BA understands that all human behavioral manifestations, classified as healthy or pathological, belong to the physical universe and are explained according to the individual's phylogenetic, ontogenetic, and cultural history. SUD is a classification made up of groupings of respondent and operant behaviors that should be interpreted in the light of the BA. We describe some of the components as tolerance, withdrawal, and PAS consumption behavior; however, the explanation is not exhaustive. The repertoire of the substance abuser is not limited to the responses commonly related to the diagnosis but to a range of behaviors in several areas of functioning. In the case formulation, the professional is responsible for performing the functional analysis, identifying the problem behaviors and control variables, taking into account the experimental, and applying the literature to develop a treatment plan.

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Chapter 8
Hermeneutic Phenomenology of Alcohol Use and Dependence and Other Drugs

Marcelo Sodelli

Introduction

According to etymology, phenomenology is the study or science of the phenomenon. To do phenomenology would be, therefore, to describe rigorously everything that is manifested in the world: appearances or apparitions. As Dartigues (2008) points out, it is with the philosopher J. H. Lambert, in the text *New Organon* (1764), that the use of this term is first seen. However, it is only at the beginning of the nineteenth century, with the German philosopher Edmund Husserl, that phenomenology will gain the contours of a new philosophical movement. In 1927, Martin Heidegger (1889–1976), a German philosopher and former student of Husserl, published *Ser e tempo*, a work that would revolutionize not only the field of philosophy but several other areas of knowledge, namely, psychiatry, psychology, anthropology, sociology, arts, etc. This chapter specifically discuss the contributions of Heideggerian Hermeneutic Phenomenology.

In addition to the delicate task of transposing the phenomenological foundations of philosophy to the horizon of a professional practice, it is necessary to face something even more challenging, since, besides being voluminous, dense, and arid, Heidegger's work includes two distinct moments of philosophical thought. Thus, we have the first Heidegger, which comprises the work *Ser e tempo* (1927) and other texts from that period. Then, there is what became known as the "turning point," the second Heidegger, which consists of the works after the 1930s. This second moment is characterized as the "history of the truth of Being" and brings a unique contribution to think about the essence of modern technique.

It should be noted that for the specific field of psychology, both the first and second phases of Heidegger's phenomenological thinking bring completely innovative

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developments. This becomes even more interesting when one understands that it is possible to work together with these two phases of his thought, maintaining rigor and epistemological consistency.

Fundamentals of Hermeneutic Phenomenology

To make the didactic chapter, the fundamental ideas of the work *Ser e tempo*, which covers the theses presented in the first Heidegger, will be initially presented, focusing on the existential analytics of the being of Man. Then, in a very synthetic way, some notions of the second Heidegger will be presented: history of the truth of Being.

We begin with a basic principle of Hermeneutic Phenomenology; the human phenomenon is not sustained by the same fundamental conditions that sustain any other natural phenomenon. To affirm that the human phenomenon should not be studied on the basis of the natural sciences does not mean that it is proposed to break with science but rather to break with the bases of a science that has calculation as its essence. In this sense, for many philosophers phenomenology would be the most rigorous scientific possibility, since it puts in debate the unquestionability of the concept of "truth" (remembering that it is assumed by the natural sciences as one, stable, and absolute).

Before any classification, it is fundamental to understand that the human being exists, that is, primarily, we are existence. To mark this fundamental condition, Heidegger coined the German word *Dasein* (to be there). *Dasein* is this entity that we are that, among its possibilities, asks about its being. To ask about everything that exists is only possible because ontologically the being of *Dasein* is not determined. As Casanova (2009) completes, the being of *Dasein* is essentially an existing being, nothing previously constituted in his being. Its constitutive characteristics are always possible ways of being and only this. It is an entity crossed ontologically by its negativity. Thus, the being of *Dasein* is always a power-being, always open to the possibilities that are his. One can synthesize that the essence of *Dasein* is precisely that it has no essence. Everything that exists manifests itself for *Dasein* from this fundamental condition of openness, which always makes us ask what are things, what are others, and what are we ourselves? We ask about everything because the sense of being is not given.

From the notion of *Dasein*, another fundamental concept was coined by Heidegger: to be in the world. This expression is understood here not through the notion of geographic space, as if man were inside the world, just as the pen is in the case or the clothes in the closet, but of "being together" with the world in the sense of absorbing into this world. Thus, the human being exists in the exact measure of his "being-in," that is, in his relationship with the world (Heidegger, 2012). To be-in-the-world reveals the epistemological clarity that *Dasein* never presents himself apart from the world. This is tantamount to saying that the real (what is commonly called reality) does not exist independently of *Dasein*, in the same way that *Dasein*

does not exist independently of the world. Thus, phenomenology, in seeking to understand the existence of the way it presents itself in the world, breaks with the paradigm that sustains all positivist knowledge, the "a priori" S-O (subject-object).

In the same way that human existence is not something simply given – for *Dasein* is always understanding (understanding) in a certain direction – *Dasein* always relates to the world, to others, and to himself in a certain affective disposition. This is the way in which we feel, the way we dispose of ourselves in the world, what is ontically known as humor**.** By *disposition* is that things are discovered as good, fearful, indifferent, interesting, threatening, etc. As Casanova (2009, p. 52) points out, "[...] Heidegger seeks to think of *understanding* as the instance responsible for such a construction of the power-being that the being-is, in fundamental resonance with *disposition*." Man exists in the world always in the light of an affective tone.

Thus, *Dasein* being a power-being (to be free) tuned in to understanding-device has no choice but to take responsibility for *looking after* its own possibilities. Man has to "take care" of being. Heidegger defines "care" as inhabiting the world and building it, preserving biological life and meeting its needs, and treating oneself and others. Men take for their care everything that belongs to existence: the world, the things of the world, other men, and themselves. It is "care" that makes life and human existence meaningful. In this way, the meaning of my life, the way I live it, that which is under my hands, is my entire responsibility.

The task of "caring for being" gains more dramatic contours when it is understood that this existential condition takes place within the temporal horizon of human finitude. We have to take care of our existence knowing that 1 day we will reach the end. The notion of being-for-death marks *Dasein's* existential condition of being-mortal, of being that entity that is open to understanding that its being (to exist) is finite. *Dasein* is the only entity that has to live with his-being-for-death and is free to make the choice between living or dying. Only a person who has the ontological openness to understand life can understand death. Nunes (2002, p. 22) points out: "from the beginning *Dasein* is predetermined by its end."

In this way, the disposition-understanding of the threat of not-being (death) fine-tunes *Dasein* in a fundamental affective tone: anguish.[1] This affective tuning is experienced in the confrontation between the need to realize one's potential and the danger of not being able to realize it. The threat is not in the world with the beings, what distresses is their own existential condition of being *Dasein*, that is, an existence that has neither soil nor foundation, crossed by a negativity (Haar, 1990). Discussing the essence of anguish, Heidegger (2012) makes it clear that every human anguish has a "what," of which she is afraid, and a "what for," for which she fears. The "what" of each anguish understands the real possibility of *Dasein's* 1 day not being here anymore. Ontically, this relates to something in the world that is approaching as threatening to a known entity that in some way presents itself as

[1] It is worth noting that in *Being and Time*, Heidegger also works the disposition of guilt. In the second Heidegger is presented the disposition of boredom. Anguish, guilt, and boredom are, thus, fundamental affective tonalities, those that explain the negativity of the being of man.

dangerous. The "what" of anguish refers to *Dasein's* own existential condition, that is, the responsibility to watch over and take care of its continuity in the world.

However, in *Dasein's* day-to-day dealings with the demands of the world, we are generally not in tune with the disposition of anguish. On the contrary, in daily life we are much more subject to a plot of meaning that is public, which reaches each *Dasein* as a world direction, as what we have and must do. As Casanova (2009, p. 103) states, "(...) in the beginning and most of the times, the ser- ai (*Dasein*) lives inside what Heidegger calls the dictatorship of the impersonal."

But if, on the one hand, as we have seen, *Dasein* does not cease to flee from the fundamental affective tonality of anguish, on the other hand, it is this disposition that makes its singularization possible. Anguish brings the essential negativity of *Dasein's* being. It opens the way for the appropriation of his most proper way: the full assumption of the responsibility of caring. "Death and anguish are involved in this project, since the former radically singularizes the power-being that the being-is, and the latter confronts it with its own character as power-being" (Casanova, 2009, p. 137). By escaping, even momentarily, from the bonds of everyday semantics (impropriety), *Dasein* can project his existence in a more authentic way and experience the decision from what is worthy to be lived for him, always in the world with others.

In short, it can be said that from the ideas of the first Heidegger, phenomenology opens a new field of knowledge for the experience of being of Man. Experience based on existence; existence based on care; ontological care determined by temporality.

As already mentioned, elements of the second phase of Heideggerian thought (according to Heidegger) will be presented below. For the purpose of this chapter, we will proceed in the direction of seeking to understand what has been designated by the author as the task of unveiling the essence of modern technique.

As it is known, from 1930, Heidegger abandons the project that articulated the historicity of being from the historicity of *Dasein* (thesis defended in *Being and Time*). In this second phase of Hebraic thought, the events of Being cease to have a relationship of dependence with the eventual singularizations of *Dasein*. Clarifies Giacoia Jr. (2013, p. 85): "the main modification consists in the fact that the being-o-ai (*Dasein*) becomes the subject not in the transcendental horizon of its own finitude, but having as reference the temporality proper to the Being." In other words, it *gives itself to be* in the vigor of the essence that is proper to it. The temporality of the Being is even more original than that of *Dasein*, historical events no longer depend on its original nadity, since the very origin of historical events is nadifying.

In *Zollikon's Seminars*, this change of direction by Heidegger is evident, for the author states that when we think of the notion of *Dasein* (ser-ai), the emphasis should be placed on the verb "sein" (to be) and not the adverb "da" (there). Thus, the opening to Being is not only an ontological condition of *Dasein* (this remains), but it is now referred to the very movement of Being, now indicated as the clearing of Being. Temporality is no longer understood only from *Dasein's* singularizations, since Heidegger identifies a more original temporality. The time of Being assumes the form of the happening – of the appropriating event (*ereignis*). This most original

time impregnates the configuration of happening and determines the meaning of an era of the world. Clarifies Giacoia Jr. (2013, p. 93): "[...] *Ereignis* translates itself as an appropriating event, designating an advent that defines an era of history, gives it an essential property (*Eigenschaft*) and a sense for the way beings, in their entirety, exist in the world." In this wake, entities do not present themselves to *Dasein* but from a destiny, by sending a sense of the history of Being, which in our epoch presents a mode of unveiling crossed by forgetting the truth of Being (metaphysics). In other words, everything that exists in the world (entities) can only present itself to *Dasein* in the way of its destiny, always within the temporal horizon of an appropriating event.

Of that, one might ask: what would be the meaning of Being of our time? Synthetically, it would be possible to say that for Heidegger the forgetfulness of the truth of Being imprints to our world the "age of technique." Everything that exists in the world is available for the manipulation of Man. The essence of the technique is production; nature is the source of extraction, transformation, and storage, in a circularity without beginning and end. In the age of technique, we only know how to master and calculate; everything becomes a reserve fund. As this project is implemented, the world can only present itself transposed by a sense of transformation of the whole entity in an experimental field of constant search of control loops. All phenomena are reduced to the ontic plane and become measurable and subject to classification and predictability. Even man himself does not escape from "thesisification," because in the age of technique he is constrained to work only. "To be a man in our time is to be a worker, manual or intellectual, that is to say, to manufacture, produce, transform and consume, and nothing else" (Haar, 1990, p. 215). Man is the beast (animal) that works. We are inclined to play and to perform; technical reason becomes almost instinctive. We are at the mercy of the calculating will, which from its compulsiveness of domination leads us to the nullity of nothingness. In the unbridled pursuit of domination, of security, and of guarantee, man indulges in the endless tasks of the technical age. We are always late and in a hurry and always in debt with some activity. Speed becomes a parameter of efficiency. Everything has to be fast, the exchange of information, the displacement, and the manufacture. The universe of technique marks the culmination of nihilism, "it opens the doors to the time when all paths lead to the fact that nothing is ultimately on the way" (Casanova, 2006, p. 177). Here, nihilism does not mean that in the contemporary world, we experience the emptiness of structural nothingness. On the contrary, it is the exuberance of paths that leads to nothingness – all paths, no path.

It is important to point out that the era of technique does not simply come from a cultural movement of the modern world nor can it be understood as the result of positivist scientific development. As Casanova (2006, p. 125) explains, the era of technique is not only related to our current context "but rather as the culmination point of a path that has been gradually prepared in the midst of the historical possibilities of the constitution of spaces of manifestation of beings, of decision of each specific world."

Finally, the age of technique opens up a unique mode of tuning in the world. In our epochal circle, the fundamental affective tonalities of anguish and guilt, though

not extinct, play a secondary role as they are suffocated by the continuous sedation of the technical frame, the abyssal positivity that plagues contemporaneity. The speed of our world, the haste, the multitasks, and the infinite social networks allow little suspension and pause for a tuning based on anguish. By pointing out nihilism as a structural trait of our time, Heidegger denounces a human being who is uninteresting to himself, that is, precisely because he loses a more original relationship with the Being, *Dasein* loses himself, fixing himself on inauthenticity. Being uninteresting to oneself ends up establishing a privileged place for boredom as the fundamental affective tone of our time. Even if at first it may seem strange, Heidegger warns that we must have the clarity that the response to the affective tone of boredom is not passivity or even inertia. On the contrary, the escape from boredom happens with acceleration: "the reproductive activity of the emptiness of those who are in many ways always and each time uninteresting" (Casanova, 2017, p. 95).

Both the first and the second Heidegger bring fundamental elements to think about human existence as it presents itself in the contemporary world. From a certain point of view, these two phases of Heideggerian thought can be considered to complete each other. If the first Heidegger brings the existential analytics of *Dasein* and, thus, reveals the ontological difference, the second Heidegger makes explicit the epochal circle of our world, the original forgetfulness of the truth of Being and the essence of technique. In order to understand the ontic questions that cross human existence, and in the case of this chapter, which addresses the subject of drugs, nothing is more interesting than to work on the first and second Heidegger from the inseparable notion of "being in the world." With this it is being said that the phenomenological view on the question of drug use must consider the existential analytics of *Dasein* in his being-in-the-world of the technical age.

Human Being, Drug Use, and Phenomenology

The brief exposition above sought to demonstrate that human existence unfolds in the world in a way totally different from any other living being. Even more important is to understand that natural laws do not explain how the human being happens. Of course, phenomenology is not so naive as to deny the influence of these laws on man's interaction with the world; however, it emphasizes that these laws are not sufficient to encompass the totality and uniqueness of the way man experiences the world. This immediately means that one should not explain human behavior with drugs by focusing on natural laws. If human existence were really supported primarily by natural laws, much of what we do to deal with the phenomenon of substance dependence would have achieved absolute success. Precisely because they do not take this into account, in their radicality, the classic areas of prevention and treatment cannot cope with the phenomenon of drug use (Sodelli, 2016).

Broadening the phenomenological understanding of drug use, one can think about the question of the classic treatment of addiction via the attempt to keep the person in abstinence through hospitalization. Why do most users who go through

hospitalization use drugs again? What happens to the human being who, even after months in abstinence, still keeps the risk of relapse present?

Human existence always takes place in time. It is precisely for this reason that it is fundamental to approximate the temporality of *Dasein* (unification of past/present/future fields) with what is known, such as the classification of drugs (depressan ts/disruptive/stimulants).

Dasein is known to have to deal with the time field of the past/present/future. The phenomenology points out that *Dasein's* most original experience with time is not representative/calculating, in which each temporal ecstasy (ek-stasis) is lived separately (chronological time). Each temporal ecstasy, in turn, carries unique characteristics. In this treadmill, besides all the possibilities that have already been realized, the past ecstasy also includes all those that have not been chosen. We have to deal with the past, with all its specific power of what has already passed, but which still remains in the present/future, because the past time, although already happened, is not closed; *Dasein* has the opening of being able to resignify what was already. The future ecstasy are those possibilities that are still to come, are open, and are still configured as a promise that may be welcome or not. The lack of guarantee goes through this temporality. The present is the decision; it is the consummation of a well-founded realization or the frustration of a disappointment. *Dasein* temporalizes himself by having to account for his life in time.

Thus, in his daily dealings with the world, with others, and with himself, *Dasein* can imprison himself in a temporal field. For example, at some moments in life, he may be so overwhelmingly invaded by memories (everything that has or has not already been realized) that all his other possibilities of being narrow. Here, past ecstasy invades the present and the future; the present loses ground to past issues, which are resumed in a vicious cycle; the future becomes detached, distant, and almost unattainable; past ecstasy predominates in the temporal field. Another example is the dominance of future ecstasy. This temporal experience concerns a way of being possible for *Dasein* who is always turned to what has not yet happened, which is a promise. The sense of this happening is that the most important thing is always ahead; past and present ecstasies lose significance and empty themselves. Again, but in a different way, the temporal field narrows. Now, past and present being emptied of meaning, *Dasein increasingly* seeks a significant event in the future, but precisely because future ecstasy is detached from others, this cannot be achieved.

Drugs, in turn, can be classified by their effects as follows: depressant, disturbing, and stimulating. It is curious to recognize that each drug can act more specifically in a temporal field, intensifying pleasure or diminishing the displeasure characteristic of each ecstatic modality (Sodelli, 2016). Thus, depressant drugs, known for their anesthetic power, can mobilize past time, causing forgetfulness of what brings suffering. In this sense, the popular saying about alcohol (depressant drug) fits perfectly: *I will drink to drown my sorrows*. The disturbing drugs (hallucinogens) bring the possibility of experiencing another lived reality, altering the present time. Here, different from what alcohol use can provide, the search is not for forgetting something painful but seeks a change in the experience of the moment. The search is for modifying everyday reality, altering the perception of the world

(things and people), and intensifying colors, textures, smells, etc. The use of synthetic drugs, such as LSD, fits this perspective. In a less intense way, but also close, the use of marijuana can modify the present time, extending it. Everything can be solved without haste, offering a feeling of relaxation. It is no accident that marijuana is known as a soothing substance. Stimulant drugs, in turn, give impetus, giving strength to reach the future, to accomplish things, and to have the motivation to face a task that has not yet been accomplished. Specifically, the search would be for power, power to do. Here, for example, there is the classic use of cocaine by advertisers or financial market operators, who seek to reduce the discomfort of the uncertainty of the future, driven by the power-to-do effect of this substance.

In tune with phenomenological thinking, the above picture should be understood as a first approximation between drugs and the temporality of *Dasein*. It would be naive to assume that man's search for the use of drugs can be described solely by the supremacy of one of the ecstasies of *Dasein's* temporality.

In this sense, one might ask how drug use would be understood from the sending of sense from the technical age? If we consider that the predominant fundamental affective tone of our time is boredom, it is possible to understand that the use of drugs in the contemporary, besides relating to the temporal fields of the past/present/future, also sustains itself at the beginning and most of the time in the attempt to buffer the structural nadity experienced in the constant disinterest of *Dasein in* relation to himself, others, and the world. In the epochal horizon of the technique, drugs would already be understood as something at *Dasein's* disposal, as a technical means to achieve experiences of sedation, stimulation, or transcendence. The unrestrained search for extraordinary experiences with drugs is nothing more than the despair of wanting to connect within oneself, something that becomes more and more unknown since we live in a world crossed by technical truth that connects us to everything and everyone but that actually promotes the great disconnection and disarticulation with the sense of Being.

Interwoven with temporality and care is the notion of life project. Everything that people do and choose, as well as everything that they do not do and choose, is somehow related to their life project. Life project is not only what is planned; it is not what is in the domain of reason and of intellect. Sometimes paths are planned and chosen, but suddenly something happens and is impossible to accomplish. Life project is in the field of meaning. Sense is the direction in which our existence points, but it is also how we are going in this direction (meaning, feeling). Sense is what makes life worth living. It should be clear that the meaning is always mine. Although I can assume or borrow the other's sense, the other can never force me to accept his or her sense. This is tantamount to saying that it is impossible to build the project of life for the other. This construction is completely unique and nontransferable. In the clinic, and specifically in the treatment of problems with drug use, this is shown in a fundamental way.

To work therapeutically on the life project of patients with drug use problems is to understand that the most important task is to involve them in the life that is theirs. Implicating does not mean solving how the patient should live his or her life. On the contrary, it is to give back to the patient the responsibility to be himself. To think of

abstinence as the only possible way to deal with the problems arising from drug use is to disregard the responsibility of the patient under his life project. In this regard, phenomenological thinking is in tune with the proposal of harm reduction.

It is in that same sense that the admission procedure should be rethought. To use hospitalization as a priority treatment measure is to ignore the way the human being experiences the world. The life of an interned patient is an artificial life, a mechanical and stable life. A life where care for oneself is almost reduced to nothing. It is understood that in such an environment the patient does not live, only survives. Practically life is reduced to the present. What project of life can be built in an institution?

Finally, it is of extreme importance to immediately review drug policies, especially those that are based on the "war on drugs" model. First, because there is no war on drugs but war on people who use drugs. Second, there is no way to end the openness in human beings to drug use. For that to happen, it would be necessary to modify *Dasein's* own ontological condition. Thus, to work for a society without drugs is to work for the impossible to happen. Any effort, whether preventive or treatment, that universally pretends to ignore human openness to drug use will be doomed to failure. It is necessary to create an effort to work in the field of the possible: for the prevention of the possible and for the treatment of the possible.

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Chapter 9
The Drug Addiction Psychoanalytic Clinic

Celi Denise Cavallari

Introduction: The Psychoanalytical Approach

Psychoanalysis is the name for a method of interpreting *speech*, created by Sigmund Freud in 1896. This method was developed from cathartic treatment, also known as *purging* passions, that was a method used by Josef Breuer (Roudinesco, 2019). On the edge of the nineteenth to twentieth centuries, with the process of women's emancipation, there began to be an increase in cases of hysteria; since 1893, Freud considered this diagnosis as a traumatic neurosis.

At that time and until today, traditional treatments and medications have proved to be insufficient to treat the complexity of psychic phenomena, since they are unique in each person and need to be decoded and interpreted. However, for this to occur, there is a need to access aspects that are not evident to the consciousness; this is possible through the professional attentive and prepared in listening to the hidden, condensed, and displaced meanders that emerge from the patient's speech. Psychoanalysis originated from this need, allowing people to speak freely, instead of a coercive conduction of the therapeutic process. Thus, the method baptized by the expression *talking cure* (in Portuguese, the cure through speech or the verbal therapy) emerged. Having said this, it can be said that Freud was responsible for transforming the way people in psychic suffering were treated, as patients became protagonists of the treatment through their speech and analysts started to contribute as facilitators of the elaboration process. The new treatment represents a historical innovation in the way psychic manifestations came to be understood and addressed (Dunker & Thebas, 2019).

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Therefore, with psychoanalysis, there has been a transformation in the approach to symptoms and in the understanding of the psychism. The idea that the psychic equilibrium depended only on the volitional decision and on the apparatus of self-awareness proved to be insufficient. It was possible to identify that there is in each one of us something unconscious, strange, and inaccessible and that the possibility of reestablishing a connection with these intrapsychic aspects occurs through the word. The floating attention in listening to the analyst seeks to unveil these unconscious processes when interpreting free associations, in which the person spontaneously exposes his thoughts, parapraxis, daily life, dreams, and also other symptoms presented by the analyst (Ferenczi, 1992). According to Roudinesco (2019, p. 258), from the psychoanalytic perspective, this is what is called "diseases of the soul": psychic disorders, mental disorders, neuroses, depressions, melancholy, perversions, psychoses, and borderlines, among others.

In the path of the psychic apparatus development, Freud initially established the concept known as the first topic, in which he presented the distinction between Conscious, Pre-conscious, and Unconscious. Later, he conceived the second topic: Id, Ego, and Superego (Laplanche & Pontalis, 1970).

For Freud, the Oedipus complex is nuclear, and the prohibition of incest establishes repression of child sexuality and the process of symbolic castration. Laplanche and Pontalis (1970) have approached since Levi-Strauss that the prohibition of incest is the *minimum universal* law *for a "culture" to differentiate itself from "nature"*. This civilizing norm leaves its mark on the psyche, and the demand for the satisfaction of the impulses remains and is repeated, because by the principle of pleasure, the impulses seek relief from repression (Freud, 1975). The repressed content is also manifested in the relationship of transference with the analyst. The analyst considers the countertransference and through the interpretation collaborates with the amplification of the patient's self-knowledge.

The conflict between intrapsychic pulsional dynamics and its permanent interaction with culture accompanies the existence of psychoanalysis. Bleichmar and Bleichmar (1992) makes a representation of this enchainment:

> Freud proposed the pulsional theory and the complementary series to explain the psychic conflict. The Klein theory continued to emphasize pulsional struggle, now from the perspective of object relations. The post-Kleinian authors, especially Bion, with his idea of continent-content and the function of "rêverie" of the mother, complete, in the Kleinian scheme, the incidence of the real characteristics of the mother in the production of pathology. In Hartmann, the pulsional focus is maintained, but the center of attention slides towards the environment, by hierarchizing the ego and its adaptation to reality. The ideas of Mahler, Winnicott and Kohut mark an environmentalist orientation, for the understanding of development and mental illness. The Lacanian theory is also situated in the environmental sector of the spectrum, but now defined from the structuring culture of the subject. (Bleichmar & Bleichmar, 1992, p. 427)

It is not this study objective to deepen neither the construct initiated by Freud nor the conceptual networks in psychoanalysis. The intention is to demonstrate that several post-Freudian authors have studied the connection between individuality and the environment in which each psychism is composed. In 1920, Freud himself

reformulated the theory of trauma because, due to the neuroses of war, he realized that the threat experienced by the intensity of external excitations can produce a mismatch of anguish, besides provoking defensive psychic reactions, with traumatic consequences, disturbing the balance of mental life (Freud, 1975). In 1929, in the text *Civilization and Its Discontents*, he added that in the face of adversity, feelings of anguish, helplessness, and guilt are mobilized, and these are raised both by the risk perceived in reality and by the internal threat to identity. He also stated that the values of good and evil are rather a subordination of the ego to an external and alien influence and are not originally given (Freud, 1981a).

In the text *Totem and Taboo* (Freud, 1981b), there is another relevant point regarding the influence of the environment, therefore, of culture, on the individual psychism (Cavallari, 1997). In analyzing primitive tribes, Freud points out that the taboos impose restrictions to be fulfilled in order to make life possible in society, that everyone submits to these rules as if they were natural, because they believe that the violation would bring serious punishment. He comments on the case of someone who eats, without knowing it, meat banned by the taboo and, upon discovering it, days or months later, falls into depression and dies; he points out that anyone who violates a taboo becomes forbidden and banned, as if carrying a dangerous cargo.

There are countless unfoldings of Freudian psychoanalysis, and much has been produced about it in the last century; however, although it is appreciated in several other areas such as cultural, educational, and artistic, it is in clinical care, as well as in the psychosocial area, its most important contribution, because "the mission of our method,... The mission of our method is to present to man the absurdity that constitutes him and, if possible, to help him to be reconciled with it: with the absurdity, with himself" (Herrmann, 2015, p. 19).

An Understanding of Psychoanalysis on the Use and Dependence of Substances

The theme of Freud's monograph in medicine was about the use of coca as an anesthetic. After that, he conducted research and published the article *Uber-coca* in 1884. For some years he ministered *Erythroxylon coca* as a substitution drug for cases of opium and alcohol dependence, besides personally using a measured dose as a stimulant. However, Ernest V. Fleischl, Freud's medical friend, treated with morphine an injury and became addict. Freud treated the colleague's addiction with cocaine, but Fleischl became addict to cocaine, and later he died as a result of his clinical condition (Byck, 1974).

As a psychoanalyst, Freud has never published a study on addictions to psychoactive[1] substances (Gurfinkel, 2011). On the other hand, psychoanalysis has produced many studies on psychic processes and has advanced from the beginning in

[1] In his work, Gurfinkel (2011) uses the concept of addictions. It is important to clarify that Freud wrote about various addictions, but not specifically about substances.

the area of sexuality. Alencar (2018) reflects that this fact may be associated with an attempt by Freud to protect himself against possible moral judgments and attacks, as well as questions about the seriousness of the psychoanalytic approach.

Finally, in order to preserve psychoanalysis or to preserve himself, Freud gave up prioritizing analytical studies on drug use and dependence. After the turn of the twentieth century, with the advance of psychoanalysis, the professional qualification of several analysts, and the implantation of polyclinics, there was an increase in demand for cases of people with needs resulting from the use of psychoactive substances, especially alcohol; and then, other analysts began to produce studies in this area. In 1908, Karl Abraham wrote the first specific text of psychoanalysis on the subject, entitled *The psychological relations between sexuality and alcoholism* (Gurfinkel, 2011; Mezan, 1999), followed by several other authors who also dedicated themselves to the subject. From 1911, Ferenczi had several studies published (Alencar, 2018).

In this historical context, although coca was considered a discovery at the beginning of Freud's career, the Opium Wars had already occurred, and in a few years, the prohibitionist movement in the USA would begin, which would classify heroin, coca, and alcohol as illicit drugs. This perspective, which led to the development of prohibitionist-punitive policies, was influenced by several moral-religious factors and ethnic issues, with the supposed purpose of solving social and health problems associated with the use of substances (Ribeiro, 2013).

Since then, prohibitionist policy has taken on absurd proportions and had many harmful consequences for individuals and societies. Thus, instead of fixing clinical, psychological, and social damages, it has contributed to aggravating them. The idea that abstinence should be maintained at any cost has stimulated the spread of misconceptions about psychoactive substances and the stigmatization and prejudice of people who use drugs. The war on drugs favors those who are more privileged to omit use so as not to be stigmatized, while the most vulnerable are increasingly exposed and associated with drug abuse and trade. Stigma that falls mainly on black and poor people, who are perversely penalized and condemned, sacrificed to purge the transgression agreed upon by society as a whole.

The discrepancy between the various types of occasional or controlled use and dependence is lost sight of; in fact, it sometimes seems that the users themselves become merely supporting actors in the scenario in which the drug is the protagonist, while for psychoanalysis this context participates as a backdrop to the imaginary, in which the analys and finds himself or herself.

Since the use of drugs, mainly illicit, is considered a taboo subject, loaded with representations in society, and the relationship with such substances is regulated by prohibitionist and punitive legislation, as discussed in the introduction, it can be said that the internalization of this prohibition is associated with the feeling of guilt, social isolation, and death. For this reason, measures such as imprisonment and compulsory internment arise, which violate, restrict rights, and increase segregation in defense of a supposed social order. In the meantime, people are seen and perceive themselves as a representation of the forbidden and condemned, being considered

guilty for occupying "the place of 'evil' in the psyche" because they are associated with drugs (Cavallari, 2015, p. 207).

The prohibition related to psychoactive substances mobilizes the ambivalence between pleasure and the feeling of guilt; and the complexity associated with the control of use escapes rationality, favoring that very primitive mechanisms of the psychism be activated, because adults are treated as if they were incapable of taking responsibility for their own choices. At the same time that the use of multiple drugs is more widespread on the planet than ever before, individual autonomy over use is denied, and the person is subjected to an infantilized condition of domination and threat to their rights.

Hart (2014) and Maté (2010, 2019) stress that we need to rethink the current approach to substance use and dependence and point out that we are not treating the causes, but the symptoms of a problem. For many people, the use of substances can provide relief for physical and existential pain, escape from stress, sense of connection, sense of control, feeling of being alive, enthusiasm, and vitality, among many other functions. These factors are related to emotional pain, and the greater the adversities and traumas in childhood, the greater the risks of addiction: which does not mean that all traumatized people will become addicted, but that all addicts have undergone trauma (Maté, 2019). These authors consider that compulsory admissions, coercive treatment, and imprisonment contribute to aggravate the traumatic picture and the drug dependency, which leads us to question the direction of public health policies to treat people with drug-related problems.

In 1971 Claude Olievenstein founded the Marmottan Medical Centre, and he disagreed with the current psychiatric treatment for drug addicts, considering that it contributed to the maintenance of the patients' dependence, instead of curing them. According to Reale, the French clinic was based on respect for the human rights of drug users, especially "freedom of choice, the guarantee of anonymity and gratuity" (Reale & Cruz, 2019, p. 23), principles that guarantee responsibility for the users' care by themselves.

The services must respect the freedom of choice, whether in private practice, in any institution or territory, the doors must be open to receive people for care and allow them to come and go. The contracts between professionals and patients must be clear and honest, since the relationship of trust is a basic condition to make the treatment viable. It is desirable that there are multidisciplinary staff and public mental health services so that anyone can seek guidance and care related to the use of psychoactive substances, if they want or need it. Another important factor is that there should be investment in the continuing education of the professionals involved with this care.

By the way, Freud, at the V International Psychoanalytical Congress of 1918, held in Budapest, had already warned about the need for qualified psychoanalytical professionals to treat mental health, as well as the problematic use of alcohol in public health, as an important factor for society to prosper:

> ... The poor should have as much right to assistance for their minds as they do now have the assistance offered by surgery to save their lives; that neuroses threaten public health no less than tuberculosis, and cannot be left to the powerless care of individual members of the

> community. Then, outpatient institutions and clinics will be created, to which analytically prepared doctors will be assigned, so that men who would otherwise give in to drinking, women who would succumb under the weight of their privations, children for whom there is no choice but to become savages or neurotics, may become capable, through analysis, of resistance and efficient work. Such treatments would be free. It may be a long time before the state understands how urgent these duties are. (Danto, 2019, p. 9)

The theoretical clinical scope of psychoanalysis has demonstrated its efficacy (Jung, Fillippon, Nunes, & Eizirik, 2006; Roudinesco, 2010) for mental health care and has made a major contribution to the support of studies and research relating to the interrelationship between the individual, drugs, and culture (Alencar, 2018). There is no general understanding that serves equally for all cases, since each personal history is unique and each analytical relationship is unique, but psychoanalysis is composed of a body of interconnected and coherent concepts that offer support for the care of people with psychic suffering also in relation to the use of drugs (Escobar, 2006).

For psychoanalysis the specification of the substance itself is only a fragment, because what really matters is to interpret the relationship that the person establishes with the drug object. Different uses and frequencies are possible, there are different links with the substances that partially supply the lack, and there are people with different personalities and needs. However, in severe dependence, an addiction occurs, almost as if the lack, this gap inherent to individuality, were suppressed by the compulsion to repeat, as described by Gurfinkel (2011):

> Addiction carries within itself the enigma of the human *pathos* of compulsion to repeat: the habit that fixes and crystallizes, the exacerbation that we are once or again taken in life, the excess that we do not want to give up, even if the price to pay is very high (pain, subsequent depression, destruction or dismantling of significant dimensions of life itself). This hunger that does not satisfy, to a certain extent inherent in the human, is what often throws us into a paradoxical destiny of pleasure-seekings and abysses of destruction. (Gurfinkel, 2011. pp. 76–77)

Psychoanalytical Clinic and Harm Reduction

In the approach between psychoanalysis and the principles of harm reduction (HR), there is a path of interlocution, since psychoanalysis works from listening to the analyst, free association, and interpretation. In HR, on the other hand, there is a series of information and guidelines for the user to take into consideration, in order to understand how to reduce the harm to health associated with drug use, in which the attitude of the therapist, although tolerant and of low demand, is more directive, but also based on listening and interpretation.

Psychoanalysis and harm reduction occur in a process, whose path requires self-perception. The analyst can help the individual to identify which associations are related to the use of psychoactive substances: When does the loss of connection with oneself occur? What personal resources favor the reduction of abuse? Which

increase the risk? When is the use pleasurable and when is the compulsion imposed? How can you identify your own limits?

To verify whether the drug used is considered licit or illicit belongs to the police view, also found in the narrative of many health and education professionals; however, we consider that the role of the analyst requires the ethical recognition of the autonomy of the person seeking care.

Introducing this possibility of interlocution makes it possible to contribute to the reduction of individual and social vulnerability of the user, by collaborating with the widening of the awareness of the proximity of risks, of one's own limitations and with the rescue of personal power to negotiate with intrapsychic conflicts, as well as with the demands of reality.

Sandor Ferenczi (1992) presented at a conference the argument that in the toxicomania cases, additional educational measures would be important for the progress of the analysis. We consider that harm reduction in psychotherapy care offers this resource. And the most interesting thing is that introducing harm reduction during psychotherapy contributes to the evolution of self-knowledge and of the analytical process itself, since they are complementary.

In both harm reduction and psychoanalysis, the attention and care focus is on the person and not the substance. Both approaches seek the development of self-regulation, in which abstinence, if any, is a patient's decision and is not given a priori. Escobar (2006, pp. 218–219), about the psychoanalytic perspective, comments that the differential over other treatments would be the fact that the object of the analysis is the subject and his/her "lack," not having abstinence as a predefined objective of psychotherapy. The process aims at the development of self-knowledge, in order to enable subjects to discern and choose to use or not, respecting their freedom and autonomy.

The therapist who can endure the existence of drug use or abuse in a person's life makes it possible for this subject to be spoken about, thought out, assumed, and elaborated and can favor the recovery of the person's protagonism, unlike the prohibitionist vision that puts the goal of abstinence as more relevant than individual desires and conflicts and decides for the patient what is best for him, alienating him from his own personal destiny.

Current Surveys

In the Brazilian context, a study on public policies and the performance of psychoanalytically oriented psychology professionals in Psychosocial Care Center of Alcohol and Other Drugs (CAPS AD) highlights *pathologizing* guidelines in publications, which contribute to the increase of alcohol use. The authors Araújo and Arruda (2019) point out the need for psychology professionals in multidisciplinary work to "minimize harm" and highlight the need for support and listening from schools to develop critical awareness.

Sodelli (2010) makes two finds in his study: to educate is to prevent and to reduce harm is also to reduce vulnerabilities. The author states that the media often contribute to the misconception that alcoholic beverages are harmless. He addresses the need for continuing education for professionals working in the areas of education and health, since, in general, the topic of drugs, harm reduction, and all relevant studies do not even appear in the curricula of the universities where these professionals come from. It can be speculated that this absence of fundamental content about the respectful care of the individual by professionals contributes to the success of prohibitionist policies that rely on abstinence as the only resource for treating problems related to harmful drug use.

Still on ethics, Santos (2017) in psychoanalysis looks for the psychic and affective processes that constitute drug consumption and dependence. He discusses that it is up to psychoanalytical ethics to question the instituted discourse of the ideals of consumerism, as well as to differentiate psychopathology from the supposed psychic normality and to consider the unexpected effects of scientific discourse.

Final Considerations

Psychoanalysis care constitutes a unique therapeutic project built among each analyst and his/her patient. Someone who makes harmful use of drugs and seeks analysis finds support for in the theoretical and clinical field of psychoanalysis.

There has been a myth that psychoanalysis would be ineffective in treating addiction to psychoactive substances. For the perspective of the "war on drugs," which has revealed itself as a war against people who use drugs and which disregards psychodynamics in favor of achieving abstinence at any cost, it is not really possible to count on the contribution of the analytical process.

Psychoanalysis allows a deeper path to listen attentively to the patient and share with him the elaboration of the engagements that compose his relations of dependence. It is up to the professional to recognize the demand and the psychic suffering, because the person always presents the best he can do to equate his psychic balance.

To demand abstinence a priori to treat someone would be like asking for the symptom to be outside and for the analysis to lose its fundamental ethical character of taking into account the patient and his unconscious motives. The strategy of harm reduction, in turn, can be an analytical process ally, as a contribution to broadening the field of consciousness with regard to the recognition of the individual over his own limits and to the development of new possibilities of negotiation with his conflicts.

We live in a society of abuse, whether of power, authority, gender, or race. The abuse of substances is another symptom of this dynamic, an escape, which puts the person back in the same circuit over and over again. Harm reduction works on breaking this repetitive dynamic, inviting the person to take responsibility for self-care, for the perception about the frequency and intensity of the use, as well as for

life itself. In this way, it is a contribution to the analytical process, in the direction of favoring the possibility of self-knowledge and the development of autonomy.

All of the world prohibitionist drug policy is still a repressive system of body control that disregards human rights and has contributed to the increase of suffering, discrimination, and violence in life, sometimes death, of the people on the planet. In our view, it is not possible to support these mechanisms in the psychoanalytic clinic. In turn, the narrative and concepts developed with harm reduction offer amplification in the possibilities of approach to the patient and support the progress of the analytical process, wherever it occurs.

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Chapter 10
Cognitive-Behavioral Therapy in the Treatment of Substance Use Disorders

Fernanda Machado Lopes, Weridiane Lehmkuhl da Luz, and Lisiane Bizarro

Introduction

In the 1960s, psychiatrist Aaron Beck, from his research on depressed patients, developed cognitive therapy, a term used as a synonym of cognitive-behavioral therapy (CBT). Beck identified distorted and negative cognition in his patients and noticed significant improvements when he assumed a more proactive and welcoming attitude in the therapeutic process. The cognitive distortions he observed occurred mainly in his thoughts and beliefs, a set that forms the cognitive scheme and significantly influences the way the patient perceives himself, others, and the world, known as cognitive triad. To delineate CBT, Beck used several psychological theories – psychoanalysis, behaviorism, and humanism – as well as philosophical and religious theories such as Buddhism, Taoism, and Stoicism and the works of Kant, Heidegger, and Husserl (Araujo, Lucena-Santos, & Castro, 2013; Beck, 2013).

CBT is a short-term, structured psychotherapy, focusing on the present and on the solution of current problems as well as on modifying dysfunctional thoughts and behaviors[1] (Beck, 1964, 2013). Its main objectives are to teach patients the relationship between thoughts, emotions (affection), and behavior; to recognize, evaluate, and modify distorted cognition (dysfunctional thoughts); and to promote realistic and adaptive assessments of the facts of life instead of distortions (An, He, Zheng, & Tao, 2017; Araujo, Lucena-Santos, & Castro, 2013; Wu, Schoenfelder, & Hsiao, 2016).

[1] Dysfunctional: inadequate, useless, or maladaptive

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Aaron Beck, as well as other authors and researchers in the field, has successfully made adaptations to CBT over time: adaptations for diverse populations and a wide range of disorders and problems as well as for patients with different levels of education, cultures, and ages. The adaptations ended up generating adjustments in the techniques used, length of care, and time of sessions, but the assumptions and theoretical foundations remained constant (Beck, 2013).

The cognitive model starts from the hypothesis that a person's emotions, behaviors, and physiology are influenced by his or her perceptions of events, because it is not the situation itself that determines what the person feels but how it is interpreted (Beck, 1964, 2013; Ellis, 1962). This interpretation is often expressed in the form of automatic thoughts, which consequently influence an emotion, a behavior, and a physiological response. J. S. Beck (2013) also states that dysfunctional thinking, which influences the patient's mood, is common in all psychological disorders. When the patient learns during the therapeutic process to monitor and evaluate and his/her cognition (thinking) becomes more realistic and adaptive, there is an improvement in his/her emotional state and behavior. The basic assumption is that the desired behavior can be influenced by cognitive change, a process that involves monitoring, evaluation, and alteration of thinking, which is called cognitive restructuring. For this, cognitive-behavioral therapists work with the patient's beliefs about himself, the world, and other people (cognitive triad) (Beck, 2013; Wu et al., 2016).

Beliefs, according to J. S. Beck (2013), are deep levels of cognition and are subdivided into intermediate and central. Intermediate beliefs are composed of rules, attitudes, and assumptions, such as the following: "if I don't do as well as others in this evaluation, I'm a failure," "everything has to work out for me." Central beliefs, on the other hand, are rigid global ideas about yourself, others, and the world. In a process of psychoeducation, it is presented to the patient that the central belief is an idea, not necessarily a truth. Like every idea, it can be tested and, even though it is rigid, it is susceptible to change. The belief may have its roots in childhood and may or may not have been a truth at the time the person began to believe it; it is maintained through cognitive schemes that support core beliefs while the person devalues data that would prove otherwise (Beck, 2013).

Not so deep in cognition are automatic thoughts consisting of a flow of thoughts that coexist with the most manifest course of thought (Beck, 1964, 2013). They can occur in verbal or visual form or both and are the primary focus of work in CBT with a view to cognitive restructuring. They are common thoughts to all people, and most of the time we are not aware of them. However, with a little training, they can be identified, examined, and corrected when necessary (Araujo, Lucena-Santos, & Castro, 2013; Beck, 2013). This act of thinking about one's thinking, for example, is a process called metacognition (Matlin, 2004), which assists in personal development by providing self-reflection about personal functioning, making the subject the agent of his own destiny.

Basic Principles of Treatment

The therapeutic process must be adapted to the demands of each patient; however there are principles of CBT that must be present for all cases. In all, CBT has 10 basic principles, which, as described by J. S. Beck (2013), are as follows:

1. *Maintain the continuously developing formulation of the patient's problems, as well as an individual conceptualization in cognitive terms*. The current dysfunctional thinking and its problematic behaviors are identified, which originate in the thinking, reinforcing it. Precipitating factors are identified, and hypotheses of key developmental events and constant patterns of interpretation of events are raised. The conceptualization is improved at each session, as more data is obtained, sharing at strategic moments with the patient, to verify if the information "sounds true." During the therapeutic process, the patient is helped to examine his experiences in the cognitive model, learning to identify his thoughts and formulate responses more adaptive to his thinking. As a consequence, it improves the way he feels and will provide more functional behaviors.
2. *Develop a solid therapeutic alliance*. Developing trust and *rapport* with the patient.
3. *Emphasize collaboration and active participation*. Therapy is seen as teamwork, where all decisions are made together, such as what to work on in each session, the frequency of meetings, and what to do at home. Initially, the therapist is more active in the sessions, encouraging over time the patient to become more active and consequently participatory.
4. *It is oriented toward the objectives of the session and focus on the problems*.
5. *Emphasize the present initially*. Cognitive-behavioral therapy starts with an analysis of current problems, independent of the diagnosis. The therapist turns to the past in two circumstances: when not doing so puts the therapeutic alliance at risk or when the patient gets stuck in his dysfunctional thinking, and there is a need to work on the origins of beliefs, it can help to modify the more rigid ideas.
6. *To be educational, to aim to teach the patient to be his own therapist, and to emphasize the prevention of relapse*. Psychoeducation on the disorder, cognitive-behavioral therapy, and cognitive model is performed. It helps patients to set goals and teaches how to evaluate thoughts and beliefs and plan behavior change. It suggests that patients take brief notes at each session of the important ideas that were worked on, to benefit from the new understanding in the following weeks as well as when the treatment is closed.
7. *Be limited in time*. The therapist aims to promote symptom relief, as well as facilitate possible remission of the disorder presented by the patient, help in the resolution of problems assessed as more urgent, and teach skills to prevent relapse.
8. *Teach the patient to identify, evaluate, and respond to his or her dysfunctional thoughts and beliefs*.

9. *Use a variety of techniques to change thinking, mood, and behavior*. The types of techniques the therapist will choose will depend on each patient's cognitive conceptualization, the problem, and the objectives of the session. The main cognitive strategies used are Socratic questioning, guided discovery, and psychoeducation, but behavioral techniques are also used, as well as techniques from other psychological theories, all implemented within the cognitive structure.
10. *Hold structured sessions*: Following the structure maximizes efficiency and effectiveness; the following will describe the structures of each session.

Structure of the Sessions

Structurally, the sessions are similar for the various disorders, adapting the interventions according to the peculiarities of each case. Initially, an *evaluation session* is carried out, where the participation or not of family members in the sessions is collaboratively defined and the agenda of the session, and the expectations are aligned, initiating an evaluation process (Beck, 2013).

During the evaluation phase, information is collected on many areas of the patient's current and past experiences to develop a solid treatment plan, assist in session planning, develop a good therapeutic relationship, and formulate therapy objectives or goals. The initial objectives are defined broadly, and feedback is requested from the patient (Beck, 2013).

The first session, as J. S. Beck (2013) writes, presents objectives, such as establishing *rapport* and trust; familiarizing the patient with the treatment process by performing psychoeducation on the disorder, cognitive model, and therapy; obtaining more information about the patient to help formulate the cognitive concept[2]; better defining the objectives and starting to work with an important problem brought by the patient; or behaviorally activating the patient, as in cases of severe depressive patients. The session is performed in the following structure (Beck, 2013):

1. Definition of the agenda – reduces the patient's anxiety, because he already knows what to expect; the agenda must be justified, and it must be verified if the patient agrees with it.
2. Performing a mood check.
3. Getting an update from the evaluation session – this way, it can be find out if there are important problems that could have priority in the session.
4. Discussing the patient's diagnosis (if any) and psychoeducation performance.
5. Identifying problems and defining goals – help the patient to turn problems into goals for treatment throughout the therapy.

[2] Cognitive conceptualization is a scheme that provides the structure for the understanding of the patient and serves as the basis for the therapeutic plan.

6. Performing psychoeducation on a cognitive model – helping the patient understand how their thinking affects their reactions, using examples given by the patient himself.
7. Discussing a problem brought up by the patient or performing behavioral activation.
8. Presenting or requesting a summary of the session – connects all the issues addressed and reinforces important points.
9. Prescribing a home exercise.
10. Requesting feedback – further strengthens the *rapport*.

From the second session onward, the format is repeated. The preparation for the end and prevention of relapses happens from the beginning of therapy; however, these themes become the focus in the final sessions of the treatment process (Beck, 2013).

Cognitive Model for Substance Use Disorder

Aaron Beck proposed a cognitive model for substance use disorders (SUD) when he realized that patients with problematic use of psychotropic drugs had similar patterns of beliefs and dysfunctional thoughts (Beck, Wright, Newman, & Liese, 1993). According to the model, already well-established since the 1990s, people with SUD often have core beliefs categorized as helplessness (e.g., I am vulnerable), disaffection (e.g., I am undesirable), or devaluation (e.g., I am inadequate), as well as most people with other disorders, who may be present before the drug problem arises, which is why comorbidities are so frequent in patients with SUD. Intermediate beliefs, in turn, seem to present a pattern of low tolerance to frustration or monotony, such as "if things don't work out for me, I give up," or exemption from responsibility and blaming others, such as "it's not my fault" (Knapp, Luz Jr., & Baldisserotto, 2001).

Besides the central and intermediate beliefs common to all people and more "activated" in those with mental disorders, the cognitive model for SUD proposed by Beck adds that individuals who make problematic use of psychotropic substances develop specific drug-related beliefs, called addictive beliefs and control beliefs. Addictive beliefs are subdivided into anticipatory, related to the expectation that the drug will provide pleasure; relief beliefs, related to the expectation that the drug will alleviate suffering; and permissive or facilitating beliefs, are those that consider drug use acceptable despite the negative consequences. Examples of addictive beliefs are presented in Table 10.1. Control beliefs are those that help in the search for reasons for not using the drug, reducing the possibility of substance use (Beck et al., 1993; Knapp et al., 2001).

Addictive beliefs are usually activated from a stimulus, also called a "trigger," which can be internal or external. Internal triggers would be memories or thoughts about some pleasurable moment associated with consumption, and external triggers can be places, people, or objects that capture the drug user's attention to the

Table 10.1 Examples of addictive beliefs in people with SUD

Addictive beliefs		
Anticipatory	Relief	Permissive
Drinking alcohol will make me more relaxed	Only alcohol will make me relax	After a day of so much work, I deserve just one shot
Smoking a cigarette won't make me feel lonely	Just the cigarette will take the edge off my irritation	I'll smoke only when I'm with other smokers at a party
Smoking marijuana will relax me	Only marijuana will lessen my agitation	After a hectic day, I deserve to smoke a beck
Using cocaine will give me pleasure	Only cocaine will take away my sorrow	I'm just gonna use this party to let go

detriment of other available stimuli and generate craving (defined as a strong desire to consume the substance). Therefore, exposure to such triggers can activate addictive beliefs and automatic thoughts related to these beliefs, such as "after so much stressful work, I deserve to drink a beer" (automatic thinking linked to a permissive belief), eliciting craving and leading the individual to articulate a plan of action to obtain and use the drug of choice (Beck et al., 1993; Knapp et al., 2001; Silva, 2018).

The complete cycle proposed by Beck in the understanding of SUD begins from a stimulus (e.g., a fight situation at work) that activates automatic dysfunctional beliefs and thoughts (e.g., "my effort is never recognized; I am a failure"), which generate emotional and physiological reactions (e.g., anger, sadness, frustration, tremor). Such thoughts and emotions, in the case of the person with SUD, are interpreted as craving and activate beliefs and addictive thoughts (e.g., "only one drink will make me feel better" or "after all this, I will fill my face"), leading the person to search action and drug consumption. Thus, the use or relapse generates new associations that form memories related to the substance that, in turn, serve as new stimuli to restart the cycle (Beck et al., 1993; Knapp et al., 2001; Perry & Lawrence, 2017; Silva, 2018).

The person with SUD is often ambivalent concerning using or not using the drug, especially when he realizes the harm this behavior causes in his family, work, and social life. This ambivalence, in the cognitive model, is understood as the "conflict" between addictive and permissive beliefs, so that the belief "that wins the fight" at that moment determines the conduct of using or maintaining abstinence. Considering the role of beliefs in maintaining addictive behavior, psychological treatment will mainly involve cognitive restructuring (of both general and addictive beliefs), problem-solving and training in social skills, as well as the application of craving management and relapse prevention behavioral techniques (Knapp et al., 2001; Perry & Lawrence, 2017).

Especially in the restructuring of addictive beliefs, the goal will be to weaken these while strengthening control beliefs (e.g., "I can resist now, and then I will feel better and more confident"). Work on problem-solving and social skills training focuses on developing or broadening the individual's repertoire, so that they have resources other than drugs to face life's adverse situations assertively. The behavioral techniques applied have as direct objective the reduction of anxiety symptoms,

the management of clefts, and the change of behavior toward abstinence. Moreover, the indirect objective is to contribute to cognitive restructuring, since small behavioral changes serve as evidence to favor the change in perception and interpretation of common events and trigger situations that will influence future behaviors.

Considering evidence-based psychotherapy, systematic reviews of the literature and meta-analysis have already found some consistency in identifying the positive effect of CBT in the treatment of substance-related problems (Campbell, Lawrence, & Perry, 2018; Carroll & Kiluk, 2017; Perry & Lawrence, 2017; Rodrigues, Horta, Szupszynski, Souza, & Oliveira, 2013). However, these data have to be interpreted with caution in clinical practice, since the size of the effect is generally modest both in the results of well-controlled empirical studies and randomized clinical trials (Carroll & Kiluk, 2017). Thus, due to the multifactorial nature of SUD, meeting the idiosyncrasies of each patient may be a greater challenge than seeking empirical evidence for more effective interventions or than the professional's expertise in evidence-based practice.

Aspects of Therapeutic Relationship with SUD Patient

The initial interview needs to be done to start the therapeutic process, either with the patient or with him/her and some relative or friend. It can be semi-structured and aims to obtain the most accurate and relevant information for the diagnosis. The professional must perform it after training, to obtain as much information as possible in a short period. The professional needs to be able to evaluate the patient from a biological point of view, regarding his social and behavioral dynamics, so that the information will be used for the realization of the treatment plan (Morrison, 2010; Wu et al., 2016). The therapist should proceed in an empathetic manner, with a welcoming and nonconfrontational posture, following the principles proposed by the motivational interview, because it is an important moment for the development of the therapeutic bond, especially in patients with SUD (Araujo, Leite, & Rocha, 2013; Morrison, 2010).

During the initial interview, one can explore aspects of coping capacity and self-efficacy, as well as factors that preceded substance use, such as whom the patient was with before (social) use, what he was thinking about before starting to use (cognitive), and whether he had any specific physical symptoms (physical) that led him to use (An et al., 2017; Wu et al., 2016). An examination of the patient's mental state should also be performed to help formulate the diagnostic hypothesis and investigate possible cognitive deficits due to substance use. The perceptual, intellectual, affective, and conative areas are analyzed. In the perceptual area, consciousness, attention, orientation, and sense perception are evaluated, and in the intellectual field, memory, thought, language, learning, and intelligence are evaluated. In the affective area, emotions are taken into consideration, and in the conative area, conduct (restless attitudes and attitudes toward the person who is doing the interview) and critical judgment are analyzed. In order to investigate some of these factors, it

is necessary to use neuropsychological tests (Araujo, Leite, & Rocha, 2013; Lopes, Andretta, & Oliveira, 2019). Standardized use of evaluation instruments is suggested so that throughout the treatment, they can be reapplied and thus monitor and evaluate the improvement process (Wu et al., 2016).

All the aspects evaluated will make up the cognitive conceptualization of the case, which is what will allow the therapeutic process to begin, which will focus on the training of coping skills to reduce the use of substances and related symptoms. To achieve these objectives, the following fundamentals should be taught to patients with SUD: differentiation among situations, thoughts, and emotions and the existing relationship among them; psychoeducation about the cognitive model of SUD; and identification of core beliefs along with the patient. These aspects are fundamental steps to be taken in the treatment of SUD, because being aware of the beliefs and the existing correlation between situations, thoughts, and emotions, the patient may be able to identify the negative reflexes that these factors may have in their lives (Araujo, Lucena-Santos, & Castro, 2013; Gehlhaar & McMullin, 2005).

During CBT treatment for SUD, among the skills that will be trained are the following: how to deal with desire, rejection of drugs, development of communication skills, identification of thinking, recovery of pleasure and fun in life, management of emotions, problem-solving, contingency plans, and training of interpersonal skills, among others (An et al., 2017; Vujanovic et al., 2016; Wu et al., 2016). Thus, for these coping strategies to be developed and/or improved, it is essential that the therapeutic bond is well strengthened and that both patient and therapist are aware that relapse is often part of the treatment process.

In this context, to obtain better results regarding the proposed objectives, it is necessary to establish the session structure, paying special attention to some aspects when working with patients with TUS. In general, CBT sessions are structured and follow the same proposal of the second session onward. This structuring aims to keep the work focused on goals and provide the greatest possible efficiency and the best understanding of the psychotherapeutic process by the patient and therapist (Araujo, Lucena-Santos, & Castro, 2013; Knapp et al., 2001). In the first session, differentiating a little from the traditional structure proposed by Beck (2013), besides the continuity of the construction of the therapeutic relationship that has already been elaborated since the first contact, it is necessary to start with the elaboration of the agenda (Knapp et al., 2001). Subsequently, a humor check is performed, in which analog-visual scales can be used (Araujo, Lucena-Santos, & Castro, 2013). In the case of SUD, at this time one should evaluate whether the use of substances occurred during the week, if so in which frequency, situation, and quantity (Araujo, Lucena-Santos, & Castro, 2013; Knapp et al., 2001). Then, the patient's problem is reviewed, and based on these updates and information obtained from the initial interview, therapy goals are established. Subsequently, psychoeducation on the cognitive model and on the importance of the session structure is recommended. It is also important to identify the patient's expectations regarding psychotherapy, to perform psychoeducation on their disorder, and to jointly establish a weekly written agenda. The weekly agenda will be based on the routine events, the objective of the therapy, and the goals that have been established. Finally,

a task is established, and it is interesting to perform a psychoeducation about the importance of this activity in the therapeutic process in CBT; a summary of the session is made, and feedback is requested (Knapp et al., 2001).

For the following sessions, some changes are suggested regarding the sequence proposed by J. S. Beck (2013). Araujo, Lucena-Santos, and Castro (2013) propose that starting with the agenda guarantees the therapist that the session does not lose its meaning when established, because Latin American patients are not so objective; they usually take a long time in the humor checks or in the bridge with the last session. The authors also suggest giving space for the patient to first schedule his or her appointments and then the therapist to do so; so the patient is sure there will be space to discuss his or her demands. Afterward, they recommend objectively performing the humor check. Another suggestion of the authors is regarding the bridge between the sessions. They suggest asking the patient "What did you leave thinking about the last session?" so that it is not embarrassing if the patient does not remember what was discussed. They also stress the importance of the therapist remembering the important aspects that were worked on and then requesting the homework. Regarding the topics scheduled for the session, it should begin with what the patient considers most urgent. After the discussion is finished, a homework assignment is established to be handed over preferably in physical surroundings to the patient. Finally, a summary of the session is made containing primarily the essence of what was discussed, followed by comments and feedback from the patient (Araujo, Lucena-Santos, & Castro, 2013).

The other sessions follow the model proposed by Araújo, Lucena-Santos, & Castro, (2013). However, even with the structured session, with all therapeutic plans and studies previously performed in the preparation of the sessions, unexpected situations and relapses are common throughout the therapeutic process. For professionals working together in the treatment of people with SUD to cope well with these situations, it is important that they make frequent contacts for case updates and planning and maintain a cohesive and harmonious language among colleagues. The behaviors evaluated as inappropriate should be defined together, and the therapist should maintain a dialogue posture, not confrontational, and make use of the bond to help in the process of accountability and promoting autonomy in decision-making (Calixto & Woitowitz, 2013).

Intervention Strategies and Innovations in the Treatment of People with SUD

As mentioned in the theoretical framework above, the main strategies in CBT aim to modify addictive beliefs and control beliefs. There are a variety of cognitive approaches in CBT to additions, which combine cognitive, behavioral, and mixed techniques. The choice of technique depends on the case formulation but also has to be adapted to the context in which it will be used: primary care, inpatient or

outpatient care, group, individual or family, and so on. The strategy described in a manual does not always apply to the psychologist's work context or a specific case (often more complex than those described), so it is important to understand the function of the techniques and how they can be combined into strategies, taking into account social, environmental, emotional, cognitive, and physical aspects of the individual (Wu et al., 2016). It is also important to be aware of treatment innovations that may be complementary or new ways of applying this approach.

Cognitive-behavioral strategies assume that in the development of maladaptive behavioral patterns, such as substance abuse, learning processes play a critical role. Much of the techniques (the behavioral) are based on principles of social/socio-cognitive learning, modeling, and conditioning classic and operative (McHugh, Hearon, & Otto, 2010; Wu et al., 2016).

Strategies that consider classical conditioning aim at identifying and reducing exposure to conditioned stimuli, the "triggers" of addictive behavior, such as an activity (watching soccer on television) that leads to alcohol consumption. But CBT does not specifically attempt to reduce the impact of triggers; it accepts the consequences of use as a given (drinking in excess will inevitably lead to a loss of control that cannot be mitigated) and instead tries to teach the patient to develop more effective coping skills and responses. For example, if the trigger drinking activity remains in the individual's daily life, the individual could plan this activity, so that alcohol consumption becomes unlikely on that occasion (e.g., not having alcoholic beverages at home when watching soccer alone, not taking money to buy a drink if watching soccer with friends, offering to drive to the group), and plan responses incompatible with accepting the beverage (rehearsing responses to friends offering drinks) and strategies to decrease the willingness to drink (going to the bathroom, making a phone call, increasing attention to some aspect of the game).

Strategies that consider operant conditioning use a functional analysis of behavior to help patients determine why they started using substances and the effects of their use and to help them identify ways to more effectively manage their behavior in response to the tips they trigger. From a recent episode of substance use, it is possible to help a patient reflect on the background and consequences of their use by asking questions such as the following: Where were you and what were you doing? What happened before? How were you feeling? When was the first time you were aware of wanting to use? How did you feel the effects of the substance in the beginning? How was it then? Can you think of something that happened as a result? And what were the negative consequences? (Wu et al., 2016).

For example, if after using a substance a person feels sexually aroused, more comfortable in social situations, or euphoric, it is likely that the act of ingesting the substance will be repeated in the future because of this positive reinforcement. If the use of substances reduces anxiety, tension, stress, or depression, again the likelihood of future use increases, this time by the process called negative reinforcement (in which an unpleasant experience is reduced or ended). Certainly, there are also negative consequences of substance use, such as depression, anxiety, and withdrawal symptoms, which would reduce the likelihood of future substance use. But since these are late consequences, they probably influence the probability of

behavior less than the more immediate reinforcing consequences (Kadden, 2002; Wu et al., 2016).

Several treatment strategies derived from these two learning models (McHugh et al., 2010). The track exposure approach tries to identify the events that have become most salient for an individual and reduce their impact by extinction, where patients are repeatedly exposed to their most powerful triggers without following them through substance use. With this type of sufficient exposure, the triggering triggers eventually lose their ability to provoke drug-seeking desires and behavior. Despite the call of this concept to reduce the impact of triggering events by disrupting their association with drug use, research results from studies of this approach suggest that exposure to clues is more likely to reduce the severity of relapse than to prevent the initial lapse in substance use. The use of electronic behavioral tasks that present images of the substance used by an individual has shown promising results, for example, for smoking cessation (Lopes, Pires, & Bizarro, 2014). Although it is believed that the clues-based approach is a considerable promise, it is still largely in the experimental stage at present.

A central element of CBT is to anticipate likely problems and improve patients' self-control by helping them develop effective coping strategies. Specific techniques include exploring the positive and negative consequences of continued drug use, self-monitoring to recognize desires in advance and identify situations that may put the user at risk, and developing strategies to deal with desires and avoid these high-risk situations. Therefore, explaining and contemplating the negative and positive consequences, identifying the conditions in which craving occurs, identifying risky situations, and anticipating ways to manage these situations (*coping* skills) contribute to the prevention of relapses.

Although several important issues have not yet been resolved regarding the effectiveness of treatment of different drug addiction by different populations, the approach to coping skills training has a strong theoretical basis in theories derived from social/social cognition learning. The evidence supporting it and relapse prevention are at least equal and perhaps superior to any other CBT approach to substance dependence. These approaches are closely related, compatible, and easily combined with several others, such as motivational therapy, contingency management (see below), cognitive therapy, behavioral couple therapy, and community-based enforcement approach (see below). We do not intend to exhaust the topic in this chapter, but since these are techniques used in CBT in general and are related to different stages of SUD treatment, we have assembled a list of the main techniques in Box 10.1 (Kadden, 2002; Wu et al., 2016).

Box 10.1 CBT Techniques Used in the Treatment of SUD
Customer-centric skills

Manage thoughts and desire to use the substance
Tolerance of distress
Distraction

(continued)

Box 10.1 (continued)

Seek social support
Challenging and restructuring thoughts and cognitive distortions
Restructure cognitive skills concerning interpersonal interactions and beliefs
Anger management
Relaxation and meditation
Problem-solving and decision-making
Finding new activities that can be enjoyed without the use of substances
Reduce negative thinking

Interpersonal skills

Social skills (dealing with criticism and learning to refuse invitations and/or opportunities for substance use)
Maintain rewarding and intimate relationships
Be prepared for relapses
Learning to identify how small decisions can contribute to relapse
Work with partners and families in support of established treatment goals

Therefore, individuals in the cognitive-behavioral approach learn to identify and correct problematic behaviors by applying a range of different skills that can be used to stop drug abuse and address a range of other problems that often co-occur with it (McHugh et al., 2010; Wu et al., 2016). Particularly in the treatment of SUD, social skills training has been identified as a necessary component of treatment, as these individuals often have deficits in specific social skills (Schneider, Limberger, & Andretta, 2016) and benefit from it (Limberger & Andretta, 2018). The skills individuals learn through cognitive-behavioral approaches remain after treatment completion (Carroll & Onken, 2005).

Current research focuses on how to produce even more effective results by combining CBT with drug abuse drugs and other types of behavioral therapies (Carroll & Onken, 2005). We highlight here contingency management and community strengthening, which are highly effective strategies involving well-trained multidisciplinary teams, infrastructure, constant planning, and evaluation and applying also to individuals in socially vulnerable situations.

Contingency management principles, which involve planning and providing tangible rewards to patients to reinforce specific behaviors such as abstinence, promote both abstinence and maintenance, enabling the individual to advance through the various stages of treatment (Prendergast, Podus, Finney, Greenwell, & Roll, 2006). Incentive-based interventions have also been used (Miguel et al., 2019) and are highly effective in increasing treatment retention and promoting abstinence from various substances, including cocaine and multiple drug use (Prendergast et al., 2006).

The Community-Based Augmentation (CRA) plus *voucher* approach is a 24-week intensive outpatient therapy for SUD of cocaine and alcohol. It uses a variety of recreational, family, social, and vocational enhancements, along with material incentives, to make a drug-free lifestyle more rewarding than substance use. The objectives of the treatment are twofold: to maintain abstinence long enough for patients to learn new skills to help sustain it and to reduce alcohol consumption in patients whose drinking is associated with cocaine use. Individuals participate in counseling to improve family relationships, learn skills to minimize drug use, receive professional guidance, and develop new recreational activities and social networks. Patients send urine samples two or three times a week and receive coupons for cocaine negative samples. The value of the coupons increases with consecutive clean samples, and the vouchers can be exchanged for retail products consistent with a drug-free lifestyle (Higgins et al., 2003). A version for adolescents addresses problem-solving, coping, and communication skills and encourages active participation in positive social and recreational activities. Studies in urban and rural areas have found that this approach facilitates patient involvement in treatment and successfully helps them achieve substantial periods of cocaine and opiate abstinence, for example (Petry et al., 2005).

Computer-based CBT systems have been developed and demonstrated to be effective in helping to reduce drug use after standard SUD treatment (Carroll et al., 2008). A computer-based version of CRA Plus Vouchers, called the Therapeutic Education System, has been shown to be almost as effective as treatment given by a therapist in promoting opioid and cocaine abstinence among opioid-dependent individuals in outpatient treatment (Brooks, Ryder, Carise, & Kirby, 2010).

On cessation of smoking, telephone counseling has great reach, is low cost, and seems to increase the chances of quitting, regardless of motivation or other support to quit, but the effects are modest. For those who have called a support line, additional telephone counseling has increased their chances of quitting from 7% to 10%. For those who received calls from counselor other health professionals, the chances of quitting smoking increased from 11% to 14%. Receiving more calls (three to five), when compared to just one call, increased their chances of being without smoking (Matkin, Ordóñez-Mena, & Hartmann-Boyce, 2019).

Final Considerations

Despite the heterogeneity, the core elements of CBT for SUD reaffirm a conceptual model of SUD as disorders characterized by learning processes and driven by the strongly reinforcing effects of abuse substances. In treatment, strategies are directed at identifying risk situations for use and developing effective coping strategies, including problem-solving and social skills training. Concomitantly, strategies aimed at cognitive restructuring (e.g., recording dysfunctional thinking and downward arrow), involving identification, evaluation, and modification of dysfunctional thoughts and beliefs (intermediate, central, and addictive) are also worked on.

The current challenges are combining the most effective strategies and improving the spread of CBT in health care. There is already evidence that integrating CBT with the motivational interview approach and the principles of relapse prevention increases the chances of successful treatment. New treatment methods, including more scalable modalities (e.g., computer-based programs) and combination tactics to improve treatment response rates or speed (e.g., associated drug use), can help the portability of new treatments currently developed by research.

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Chapter 11
Existential Clinical Psychology and the Problems Related to Drug Use

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Introduction

History reveals that in the oldest civilizations, it is possible to find records on the use of opium and alcohol for various purposes, whether for use in rituals, curiosity, or the search for pleasure and new sensations (Brusamarello, Sureki, Borrile, Roehrs, & Maftum, 2008). This example shows us that the phenomenon of drug use crosses the history of humanity and reveals the values and interests of each era (Escohotado, 2004). Multiple factors determine the problem of alcohol and other drug use (AD). However, the predominant model is still biomedical, with an emphasis on biochemical/biological causality. On the other hand, there is the moral model, which also has strengths, focused on subjective aspects, in a moralizing logic (Costa & Paiva, 2016; Schneider, 2010). This phenomenon implies factors that encompass dialectic between subjective and objective aspects, involving the dynamics of each person's relationships, with their own body, their material conditions, their life history, their psychosocial context, and the territory where they live. We need to consider the context of a globalized world permeated by economic and social inequalities that emerge as a backdrop to the problems related to drug use. We need to understand that it is people who make sense of drugs and not the drugs that make people what they are. It is essential to understand that drug use is a profoundly human issue, as it expresses the meaning of existence and its multiple outlines (Nery Filho, 2012).

On the other hand, it is undeniable that the high consumption of legal and illegal substances in the daily lives of many people impacts health and society in general. Studies indicate that substance abuse has the potential to cause more harmful health

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damage such as illness, disability, and death than other health problems considered preventable (Straub, 2014). Drug use occurs in different spaces, in urban and rural areas, crossing different age groups and social classes (Madruga et al., 2012; Reis & Oliveira, 2015). It poses itself as an ambiguous issue because it produces pleasure through relaxation, excitement, or alteration of the senses, which is one of the main reasons for the use of psychoactive drugs. When it becomes problematic, it also produces emotional, physical, and social damage (Henriques, Rocha, & Reinaldo, 2016; Lopes, 2016; Pillon, Cardoso, Pereira, & Mello, 2010).

One of the main problems pointed out regarding drug use involves the conception of its potential to generate what is understood as "chemical dependence," which conceives the subject as someone passive and transformed by the chemical effects of drugs without considering other social and contextual determinants. This vision reinforces stigma and contributes to emphasize the logic of the war on drugs, favoring a model that has proved insufficient to find practical solutions for prevention, because it neglects drugs as a social phenomenon, omitting them from ethical reflection under different dimensions (Bucher, 2007).

Therefore, we must be cautious about problematizing drugs as something harmful and limiting in *itself*, as if it were capable of exercising such power over people. It is impossible to deny its impacts at different levels. Still, drugs cannot be relegated to a purely deterministic sense, which generates moralistic and reductionist perceptions about the way people use them, including health professionals (Laport, Costa, Mota, & Ronzani, 2016). In this sense, the existentialist perspective aims to contribute to the overcoming of reductionism, assuming a dialectical view of the problems related to drug use. "Drug use is, in fact, neither the cause nor the effect, but a totality of what is experienced through drug use" (Schneider, Strelow, & Levy, 2017, p.227).

The Existentialism proposed by the French philosopher Jean-Paul Sartre (1905–1980) at the beginning of the twentieth century, developed as a synthesis of several philosophical and epistemological bases, such as Husserl's Phenomenology, Kierkegaard's Existentialism, Marx and Engels' Historical and Dialectical Materialism, and the Science of the twentieth century, with the paradigmatic twist produced by Einstein's Physics of Relativity. These last two influences, Dialectical Materialism and Relativity, make Sartrean Existentialism different from other phenomenological psychologies, breaking with its subjectivist tendencies. It brings a critical look to the understanding of human existence, understanding it as a result of multiple determinations (Schneider, 2011). "Existence precedes essence" is the existentialist maxim, which implies considering insertion into the world being body consciousness as the first and fundamental condition of our humanity. Thus, existence cannot be defined a priori, but a product of the development process that occurs from the subject's path of relationships with the world: with his own body, with others, with things, with time (Sartre, 1970). The person is inscribed in temporality by his historical experience, whose sense is in the future, given by the project of being (Sartre, 1997).

Drug use is one more of these possible relationships. Its intelligibility depends on personal history. This history, in turn, is determined by the family and social

context. The dialectic between socialization and personalization will define the existential meanings of addiction. Thus, depending on this set of determinants, different relationships with drugs and different patterns of use are consolidated: experimental, social, problematic, or dependent. Existentialist Philosophy offers essential contributions to understand human subjectivity and overcome various reductionisms, whether of a biologist, subjectivist, or sociologist order.

For this reason, other perspectives that seek the understanding of drug use as a complex phenomenon added it, sustained by the knowledge of the subject as an integral being, placing itself as the epistemological foundation for this expanded vision. The person experiencing problematic substance use is not just someone who abuses drugs, but someone in a situation of psychosocial vulnerability. This vulnerability is a result of the relationship between family dynamics, economic, cultural, and social conditions, which outline personal history. Moreover, at the same time, they choose intentionally, which often alienates them in a dynamic of being, in compulsions, but, for others, can make possible reinventions and exits to more viable lifestyles.

We are here in the dimension of what Sartre will define as *freedom*, crucial to understanding the drug user and the health actions, such as harm reduction, which has in freedom one of its epistemic assumptions. Existentialism has much to contribute to elucidating the issue of liberty. It is an ontological aspect; it means that it is a fundamental part of the constitution of human reality (Schneider, 2006). Therefore, freedom is not something to be chosen, it is not a conquest or a prize, but a contingent fact (Boechat, 2004). Freedom, as a condition of choice, is not to obtain what one wants, to be successful in decisions, or to be clear about these and their consequences, but it consists in the human condition, which means that the person must make elections and decide which path they want to take. The philosopher discusses the paradoxical question that we are "condemned to freedom" because "we are a freedom that chooses, but we do not choose to be free" (Sartre, 1997, p. 596). The person cannot be their foundation; they do not choose to exist, since existence is factual and contingent. Thus, the user launches into the world with its coefficients of adversity and facticity. They must decide on a framework of choice concerning their environment. In other words, the person necessarily has to deal with what they find in their context, or better, the situation they are immersed in: the place where they find themselves, their history, the instrumental-things which surround them, their fellowman and their finitude. The situation is the result of the struggle between the facticity of the world and freedom. Therefore, it is an ambiguous phenomenon since it is difficult to discern the contribution of subjectivity and objectivity (Sartre, 1997).

The person always has to make choices, but only in a situation, and these end up defining their future. In this way, they set their *ontological commitment that* is instead ending up delineated in a specific existential direction when they make their choices. Therefore, the person is responsible for their decisions and for what they chose to be. Also, by choosing for themselves, they place their choices as a human possibility for all others. As Sartre says (1970, p. 221), "we must always ask ourselves: what would happen if everyone did the same? However, we cannot escape

this disquieting thought except for a kind of bad faith." This condition generates anguish because the situation imposes on us a structure of choice in which we are condemned to choose. Not choose is to elect not to choose. Thus, the recognition of contingency implies a subjective awareness and demands responsibility for being, resulting in the experience of existential anguish (Sartre, 1997).

Drug use is one of those free choices that the person makes from the options structure in which they are involved. However, this complex process commits the person to the chosen paths, to all their pleasures, but also the social, labor, financial, and existential consequences. The free choice for drug use is one more way to carry out their project of being, even if it may be in reverse, by decisions that lead the person to a process of alienation (your being ends up escaping from your control) and generates endless anguish. The role of drug use should be understood considering the totality of the person as a basis for the intelligibility of the multiple dimensions involved in addiction. Therefore, we need to discuss further the understanding of the problems related to the use of drugs by Existentialism.

The Existentialist Method for Comprehension of Drug Use Problems

The existentialist method defines the horizon of understanding the phenomenon. Due to the influence of historical and dialectical materialism, Sartre based his proposal on Marxist Henri Lefebvre in the so-called progressive-regressive method, which allows knowledge integration of sociology, history, and psychoanalysis (Sartre, 2002).

This method considers the personal history at the intersection with the general history of the moment lived, one clarifying the other, relative to each other. It implies the understanding of the person as universal-singular. In a progressive movement, one starts from understanding the specific context of the person, their history, and relationships, and it progresses to the analysis of the universal dimension, seeking to understand the material, economic, cultural, social, and political issues surrounding them. In a regressive movement, the meaning of this general history is revealed by turning to a particular situation. In this way, it is possible to achieve the historical totality of human uniqueness (Sartre, 2002). Lefebvre called this process of horizontal progressive-regressive movement, which implies the path of singular historical dialectics (the future of the person becoming past and the past consolidating itself as future, expressing how he internalizes the exteriority that surrounds him). However, it is still necessary to carry out this method in a vertical sense, seeking to understand social structures, collective history, and its material conditions, in a relationship of circular conditioning, in which the singular is the living expression of the universal, of the human condition (Sartre, 2002).

According to Boechat (2004, p. 162), this method is "a mediating pole between man, in his uniqueness and the historical context from which he starts as a builder."

The progressive-regressive process is a dialectic spiral of understanding, in which objectivity and subjectivity cannot be understood one without the other. This movement contextualizes the practical experience of being in its social, cultural, and historical conditions (regressive, situational). It transcends the circumstances of facticity in search of the future (progressive, which overcomes the situation) (Englebert, 2017).

The existentialist used the progressive-regressive method for the understanding of psychic suffering, defined as "objective neurosis" in his monumental biography of Gustave Flaubert (Sartre, 2015). He proposes the reconstruction of neurosis as the first comprehensive movement seeking to understand it "from within," to investigate the interiority of the experience of those who suffer, in a regressive move. Initially, the proto-historical genesis must be reconstituted (even before the very emergence of the psychopathological). Then one immerses oneself in the history of this suffering, seeking there the intentions, the affectability during the situations in which he is engaged, and which end up structuring his experience (*vécu*) (Sartre, 2015; Schneider, 2017). The "lived" is a way in which the person understands themselves, without being of the order of knowledge. It is a kind of non-positional self-consciousness. It corresponds, in fact, to spontaneous, pre-reflective, unethical awareness. Sartre translated the "lived" as the "unspeakable" of emotional and psychopathological experiences. Experience does not translate into words, and that always escapes the control of those who suffer it. However, it is there, present in the person's life, making them know themselves as who they are (Sartre, 2015). The *second moment* in the comprehension process of psychic suffering is the progressive movement that goes in search of understanding the objective structures that provide the real contours of the psychic pain experiences. The institutions in which the person is inserted express the infrastructure of a given historical moment, such as living and working conditions, health, and housing conditions. The historical conjuncture that shows the contradictions of the socio-cultural, political, and economic context where they are, and the family structure, understood as mediation between structures and people that produce the sociological atmosphere lived in the intersubjectivity of a group (Sartre, 2015; Schneider, 2017).

The condition of comprehensibility replaced the interiorization/exteriorization dialectics. Objective structures only gain meaning through the subjective and pre-reflexive experiences that the person experiences when making their choices. So they have to deal with them, with the path they have traced on and the way they know themselves to be on that path. Then, the person carries out reflective elaborations to produce the intelligibility of themselves, confronting their impasses and contradictions. Choices are not easy to adjust the demands of the environment or deny them, fight adjustments, or give oneself to them (Sartre, 2015; Schneider, 2017). Psychic suffering is the way out invented by the person in the impasses they lived at the crossroads of life. To what extent does this suffering harm, and is it useful to the person? This question Sartre (2015) asks about Flaubert and his hysteria. We can transfer this question to drug users: how harmful is abuse to their being or useful to the person? What does this invented way out represent for the user in the elaboration of his impasses? Sartre argues that this answer is not easy to give, and

there lies the "lose-gain" of all psychopathological experience, which ends up being a trap for the user himself. He transgresses social norms, overflows in his emotionality, all to free himself, but the means chosen imprison him more and more (Sartre, 2015; Schneider, 2017).

The *third moment* of the Sartrean method in the understanding of psychopathologies brings the notion of "objective spirit" (Sartre, 2015). The Sartrean argument is that psychopathological experiences are, in fact, an expression of their time, of the beneficial interest that prevails at a given time, that is, they are conditions of possibilities experienced by people in facing the contradictions of a given social and historical context, which end up mirroring this same moment. Therefore, according to each era, specific psychopathologies predominate. The individualistic culture and the exploitative relationships in the business world, with high-performance requirements, define the contours of the psychological suffering of our time (Han, 2015). In contemporary times, taken by imprisonment in immediacy, by the volatility of relationships and by the demands of exacerbated productivism, drug abuse is a response that "fits like a glove" in this temporal conditioning. Such adjustment is due to the drug absorbs the users in the intensity of its chemical effects, immersing them in the instantaneous pleasurable experiences and the future break by offering a response to sociological conditioning.

The question is that the effects cease quickly and soon need the next dose, a dynamic that will lead to the vicious cycle, dominated by the experiences of compulsion and tolerance (Schneider et al., 2017). This situation becomes even more problematic when the person finds themselves in contexts of social exclusion and misery because the choice for drunkenness, numbness, and intensity of the effects of drugs is even more intense to support this "drug of life." However, the use of narcotics deepens the circle of humiliation, personal degradation, social isolation, and loss of rights (Souza, 2016). Psychopathologies express the conditions of temporality. Therefore, the problems related to the use of drugs bluntly show contemporary contradictions.

Therefore, the existentialist psychologist must understand the suffering by the relationship between experiences of bad faith and alienation (Castro, 2017). Thus, "we suffer, to the extent that we are dispossessed of ourselves by a social *praxis* that constantly 'steals' the fundamental meaning of our existential project and grounded us to make certain viable ends that are alien to us" (Castro, 2017, p. 112). Castro (2017) emphasizes that human choices are not reduced to purely psychological or sociological aspects. Bad faith and alienation go together. The first is a movement of a reflexive attitude in which people consciously seek to deceive themselves regarding the real intentions of their actions. On the other side, alienation relates to social aspects.

In this sense, it is possible to question how the drug use appears to the subject as a possibility of choice, reproducing ephemeral pleasures and effects that the substances produced in the human body. It generates different sensations that allow us to deal with the tiredness of being inserted in a society that seeks the best performance, or even, that produces a false experience of filling the existential void. Existentialists understand that once the person can always choose, it can be an

alienated choice, which occurs in a conditioned structure. Sartre (1979) defended the responsibility of choice without disregarding the alienation and the oppressor context in which the person is immersed.

The Problems of Drug Use Between Bad Faith and Alienation

We will use Fernando de Castro's (2017) text in his Sartrean analysis of psychic suffering to comprehend the drug use problems by applying the progressive-regressive method described earlier, and thus understand the phenomenon on the plan because of the relationship between bad faith and alienation. Bad faith is a way of trying to deceive oneself. The standard lie implies that the liar knows the truth he is hiding, and he intends to deceive another. Bad faith has the same structure as lies; the difference is that I hide the truth from myself. Through bad faith, I deny qualities that I possess (I do not admit that I am afraid, for example), or I try to constitute myself as what I am not (consider myself brave, even if I am not). It is only possible to deceive others and ourselves because we do not coincide with ourselves; we are an ambiguous being, a becoming (Schneider, 2011). Sartre (1997) explains that bad faith is a behavior of "faith" and not a cynical lie; this means that it is a phenomenon of belief. It is noted, a thoughtful decision of the person (of the "I want to deceive myself" type), but a spontaneous experience of our being. As we experience it, we are "stuck" to it, without distance to be able to question it. Bad faith is a process by which consciousness affects itself in bad faith. Through it, the person seeks to escape from what is impossible to escape, that is, to avoid what one is (Sartre, 1997). In this direction, bad faith is a way to deal with the anguish generated by their condition of freedom, that is, by the choices they have to make in a specific structure of choice. For this reason, Sartre (1997, p. 89) states, "I run away to ignore, but I cannot ignore that I run away, and the escape from anguish is only a way of becoming aware of it. Here we are talking about singular experiences, portrayed by regressive analysis."

On the other hand, Castro (2017, p. 111) clarifies that "bad faith appears to us as a way out within an alienating situation and, at the same time, alienation is inducing acts of bad faith which, in turn, end up reproducing the alienating structure." The author calls attention to the universal dimension involved in acts of bad faith, revealed by progressive analysis. The person's psychological suffering may be related to oppressive social praxis, which sucks in the fundamental meaning of their being, instigating the individual to achieve goals that are foreign to them. An example comes from the manipulation of the media or the current wave of fake news, which seeks to shape behaviors and induce postures and defense of values. However, it is necessary to be attentive because the person lives this alienating process not as a simple object, but as "alienated freedom," that is, as the one who chooses the means that turn against themselves (Castro, 2017).

Let us try to understand to what extent the relationship between bad faith and alienation helps us to comprehend more deeply the problems related to drug use. To

this end, we will reflect on the history of a cocaine-dependent user, which will help us to elucidate the method, the comprehensibility of the case. We will indicate paths for the existentialist clinic.

Theoretical Reference and Case Report

Our character was 41 years old when he gave us the interview (August 2005) and narrated his life story.[1] He had been a professional ballet dancer, becoming the first dancer of the main theater in his country, having obtained great local and international success. At the time of the interview, "Dancer" was 17 months without using drugs and lived in the Therapeutic Community (TC), where he worked as a monitor. He had been in Brazil for 7 years and had come to escape problems with justice in his country. Dancer spent some time on the streets because he did not have his own home and family in Brazil. He could not settle for jobs and preferred the freedom that the streets offered him due to the constant use of cocaine. He lived the contradiction of his life history actively because he came from a wealthy family, and he was well paid as a professional dancer. He spoke several languages and traveled through several countries, which he covered during his dance career. From his family, he had contact only with his mother. She lived in his home country and was in good financial condition, and then she always sent pocket money to help Dancer. He no longer had contact with other family members because they always fought. His friends were mostly boarders from the TC. He still maintained a friendship with only two colleagues from the old days, who were not "on active" because they only used alcohol socially and gave him much strength in his recovery.

Dancer relates the vulnerability of his psychological condition: he felt anxiety and fear in the moments in which he experienced greater fragility and loneliness, experiencing an existential emptiness. At those moments, he felt compelled to use drugs. Therefore, he was sure that the only thing that held him back was to follow exactly the steps defined by his treatment in TC; otherwise, he could incur a relapse as had happened many times before. He used strategies that he learned in his treatments, all within the traditional model in the drug users field, such as resorting to spirituality, prayers, and psychotropic medications to sleep and control his emotions.

> I have no relationship today. I am following the program's suggestion, which says that during the first year, I have to be without a romantic relationship because any frustration, any failure can mess with the person and relapse since the person is not prepared. Before I used to test myself, he used to say to me, "oh, so suggestive, but I will do it, I know it will not work", but after that, it will. So, today, I do not test myself anymore; if they suggest, it is better to follow the recommendations [sic].

[1] Daniela R. Schneider approved by the Ethics Committee with Research on Human Beings of the Federal University of Santa Catarina, under No. 065/2005.

We can point out the Dancer's movement as a behavior of bad faith, a way of deceiving himself for fear of living loving relationships or facing other impasses in his life. The difficulty of dealing with them makes him hide behind the technical justification of the treatment to avoid unbearable frustrations. In this case, the traditional model of therapy covers them up and feeds them without giving them the conditions to face their ghosts and gain autonomy as active subjects of their own lives, instead of breaking with the bad faith structure of the users. That is the reason why users, such as Dancer, exchange drug addiction for treating addiction, because, without it, they cannot face their impasses of being, through which appears the function that the drug has in their lives.

Regressive Analysis: The Proto-History and the Trajectory of Dancer's Cocaine Dependence

Returning to his life story, Dancer is the second son of an upper-middle-class couple, with good financial condition. He was born from an attempt to reconcile the couple that had already accumulated many fights. These are his most remote memories. When he was at 5 years old, his parents divorced, and the family atmosphere was crossed by constant fights, arguments, and verbal violence. In this context, the father was a bohemian who enjoyed parties and made abusive use of alcohol. After the separation, the mother wanted to "recover her single life" [sic], going out at night, leaving him alone or at the neighbor's house. He reports much fear of abandonment, sleeping problems, always waiting to see if his mother would come back. Besides, he was always checking if she was really in her room when she was at home.

> My mother started enjoying her life again; I was small, then one day, my mother left me alone, sleeping, and went out to date. I woke up in the middle of the night, and the house was dark, there was no one, I went into a state of fear, I started to scream, cry, and knock on the door. Then a neighbor got the key to the apartment from the property owner, opened it, and got me out. That was my first experience of panic, which I do not forget. Then I was afraid that my mother would leave and not come back. It was a tremendous fear that I had. Then my mother had to take me to stay at a neighbor's house when she left, but I would not sleep, I would wait until my mother arrived, so this is a situation that disturbed me, I started to have problems with sleep, sleep disorder [sic].

We verified that Dancer's childhood experiences led him to have intense emotional experiences as a way of dealing with the unstable conditions of his family life. For Sartre (2002), emotions are singular and full of meaning way to relate to the world. Feelings are human quality, with a historical and peculiar sense that it acquires for each subject. Furthermore, like all human actions, they are contextually inseparable from the social environment. Emotional reactions are what make subjective experience real, as it is an attempt to change the world by being affected by it (Englebert, 2017).

In the dynamics of the person's relationship with the world, there are materiality, relations, coefficients of adversities that require them to face it and make choices in it, performing procedures, assuming behaviors in this world with rules, standards, and technical means. When difficulties arise, and it is impossible to remain in this world full of demands and contradictions, there is always the possibility of escape to what Sartre (1965) calls the *magical world*, in which emotion happens symbolically. The reality determinisms are defined by the rules of space and time, by social demands, and they cannot be applied to emotion because people transform themselves to change their apprehension about the world when they are experiencing their emotions. Nevertheless, the world is still there, the same. Thus, when the person is thrilled, they do not act effectively on reality but use their body as a means of enchantment, as if by doing so, they changed the world (Sartre, 1965). Instead of facing the harsh reality, the person goes into depression, for example, locks themselves in their room and cries all the time, no longer wanting to go out, because adopting more positive behaviors would mean facing difficult situations, which would be much more painful. Thus, by modifying themselves for the psychophysical changes they suffer, the person seeks to alter the adverse situation without facing it face to face, only at a distance. The paradox is that the solution is also painful (Schneider, 2011).

What determines the entry into the magical world is the personality constitution of the person and the sociological rationality that supports them (the way they affect and apprehend the world). There is always an indissoluble synthesis between an emotional person and a thrilling object. Like every human phenomenon, this is a situational relationship and needs a context to sustain that between both poles. However, when someone experiences an emotion, they have the feeling that they have been "taken over" by it, that they have "suffered" it because the passion is unthinking conduct (first-degree consciousness). It is a spontaneous, positional experience of the thrilling object but non-positional consciousness of itself. The experience of the person, therefore, is that the emotion "happens to them," takes over their being, even if it is spontaneous as if they did not produce it (Schneider, 2011). At this point, emotion approaches bad faith.

Interesting to note how the drug user's emotionality is one of the crack's triggers, as we observed in Dancer. An emotion is a historical experience, apprehended in infinite life experiences, to deal with adversities and impasses of personal situations. Nevertheless, this emotion often overflows, escapes from his control, and he becomes vulnerable in front of others and himself. Therefore, he needs psychoactive substances to cushion his feelings, which is the function of drugs, through chemistry, acts on the psychophysicist, and it alters the affectivity. In the last instance, the drug is an attempt to intervene in this adverse and contradictory world with the same magical mechanism of emotion, acting on itself without facing it. However, "the spell turns against the sorcerer" because the drug has a momentary and passing effect. The world imposes itself again, now with its doubled, quadrupled force and will need to restart the whole process, with more doses, to support the weight of the world and of itself, while remaining in the situation of alienation from its being, without breaking the logic.

Let us go back to Dancer's story because it is already possible to understand how he found the way to deal with the difficulties of his world and his relationships, in the excessive sensitivity and emotional overflow.

Between 8 and 9 years of Dancer's ages, his mother got a new husband, who welcomed him very well, striving to relate to his partner's son in the best possible way. However, Dancer tells that he was very jealous and tried to interfere in the life of the couple, causing intrigue so that his mother could stay with him longer. He says that he still had many fears in this period. On the other hand, he remained related to his father, whom Dancer admired a lot: his father was an artist, led an unconventional life with parties and alcohol abuse. He stayed with him from time to time and were always moments of leisure and enjoyment. Influenced by him, he began the use of alcohol soon. At that moment, his father was his model and his idol. His father's family was upper class, with many luxuries in his aunt's and grandmother's house. Although his mother considered him irresponsible, his father provided him lightness and a life full of good emotions. These experiences were a contradiction that his mother provided him with security and stability but also boredom and predictability. His stepfather was a worker who needed to fight for his life, very different from his father. Dancer stays in this tug-of-war between his father's life models – irresponsible, but with fun and joy – and that of the family made up of the mother, the stepfather, and the grandparents, who also protected him – with stability, security, and boredom. This process lasts until his tenth birthday when his father moves to Brazil, and they stopped having frequent contact.

Dancer lived that moment like what the specialized literature points out as one of the main risk factors for drug use – parents' attitudes favorable to drug use and family history of drug use (Baheiraei, Soltani, Ebadi, Foroushani, & Cheraghi, 2017). It is important to reflect on the life model that the father passed on to him as a child.

When he entered high school, he had several behavior problems at school. However, his academic performance was excellent, "I learned very fast, I understood very fast. I wrote down very quickly. Then I had nothing to do in class" [sic]. He ended up being expelled from six schools. In his words, "I was always looking for a new adventure, a new thing, and always ended up in a mess" [sic]. He no longer had his father's company, and his mother and stepfather tried to support him. They provided him economically, but even so, he did not try to be part of the family. He found his place of comfort in society among friends, romantic relationships, and parties. He recreationally used alcohol with his friends. However, he felt very alone. A feeling of loneliness that, in a way, would cross his entire life trajectory and was the basis of his drug use. A feeling that he was never able to work to overcome, being carried by him at every impasse he lived.

Here in the moment of adolescence, we have already moved beyond protohistory, and we have Dancer's personalizing process. There is an outline of his project of being, the shreds of evidence of his psychological dynamics and the emergence of problems related to drug use. The existentialist describes that personalization is a process in which the being of the person is not totally suffered, nor totally constructed because it is the result of a set of procedures through which we seek "to assimilate the inassimilable, that is, essentially, our childhood" (Sartre, 2013,

p. 656). Therefore, personalization is understood here as "the overcoming and conservation within a totalizing project, of what the world has done – and continues to do – of him" (Sartre, 2013, p. 657).

We have to understand the structure of choices that is imposed on that child, with a petty-bourgeois logic, with its ethical and aesthetic values provided by its father's family. On the other hand, the provision of his well-being by his mother and stepfather without the imposition of high limits, demands, and control led Dancer to experience himself loose in life and a constant tug-of-war between different ethics of life. It is a dynamic of not committing to being, with the family, with the school, and later with work and affective relationships. Since he was a little boy, Dancer learned that even if he "played pranks" [sic], he did not have to pay for the consequences because he was always covered up. Life seemed natural, and his project was forged in the logic of fatherly desire: a life with adrenaline, lots of fun, and glamour. Consequently, cocaine soon became his drug of preference because its chemical effects are consistent with his project of being. The point was the price he had to pay for the alienated choices made – he could not fix himself on places, people, and feelings – so he experienced an abyssal and unbearable solitude throughout his life.

Still, in high school, he enrolled in a ballet course hidden from his family. He had an excellent performance in dance school and gained prominence as a dancer. At 18 years old, he made a ballet company test of the main theater in his country and was ranked in the first place. He earned his first salary and grew quickly in his career. He even started higher education in the arts but gave up because his work demanded a lot from him. During this period, he tried cocaine for the first time with his friends, the drug with which he developed a dependency relationship in a short time. He became very tolerant of alcohol, being able to ingest larger amounts without feeling sick.

Dancer achieved success in his career: he lived in several countries, received honorable mention scholarships, and did great shows. However, the more he ascended, the more dissatisfied and restless he was. "I was looking for strong sensations; I wanted strong sensations" [sic]. The more he was successful and became known, the more he used drugs, especially cocaine and alcohol. How to understand this paradox? Dancer could not understand the meaning of his actions. "I see that ballet is something that moves me a lot; I do not know what happens... I do not know the answer, but it moves, moves, moves" [sic]. He could not understand the imaginary object force over his being. Sartre (1996) reflects on its role in psychic life when he considers the image as "an act that aims in its corporeality at an absent or non-existent object, through a physical or psychic content that does not happen in itself, but as an analogical representative of the object aimed at" (p. 37). The *analogon* accomplishes the remission of a present object to a past situation with socio-emotional forces. It gathers all the affectability of a lived situation and witnesses the emotion experienced. When Dancer was living on the streets and dancing for some money, he was very emotional and always ended up relapsing into cocaine use. These occurrences reminded him of his experiences with the entire emotional burden, as we can see below:

> That is one thing I could not handle: success. Good money came in, but I spent it all. With designer clothes, parties, women. I paid things for everyone; I did not care. My mother was in a better economic situation, so I spent my money, and then I was going to ask my mother for more. I had rented an expensive apartment. I spent everything on parties and using cocaine, on the weekend I always bought 5 or 6 grams, I could use all of it. I was 24, 26 years old. They always wanted to make me the principal dancer of the ballet company, and I did not want to, because I did not want to be more responsible, I was always in that game. On the one hand, they threatened to send me away because I was undisciplined, but they did not want me to leave because I was excellent. It was a situation that shook me a lot, and I was snorting more and more, I just could not stop [sic].

It is possible to glimpse the impasses experienced in Dancer's project in his relationship with his profession: the classical ballet gave him the life of parties, adventures, and freedom he desired, made it possible to taste the glamour in all its intensity. On the other hand, the ballet required a lot of discipline, dedication, emotional, and corporal surrender beyond the physical and mainly emotional limits that it contained. Here appears the contradiction: on the one hand is his unreadability for rules and discipline, including the experiences he lived in countless situations throughout his life, but he still found a way to mislead them with his cleverness, intelligence, and ability to accomplish, and on the other hand, people wanted him in the ballet company, even with these attitudes, including him. We can draw a parallel between his childhood experiences in his family and the relationship with the leaders of the ballet corporations. However, there was bad faith involved in his lose-win dichotomy, for the more, he showed himself undisciplined and rebellious, the more he knew himself as the owner of his actions. He lived the adrenaline rush of the challenges of social maladjustment. He paid the price for not being able to implicate himself in relationships and never being involved with anyone, for being the rascal who deceives everyone.

Nevertheless, Dancer most deceived himself because he had to bear the suffocating weight of absolute solitude. The fear that this loneliness caused him was lived intensely by him since his first affective crisis at the age of five in the situation experienced as abandonment, repeating itself infinitely, without him being able to overcome it as if he were a prisoner of this "destiny." The affective *analogon* brought by present situations consistently linked him to revive the past situation, without him being able to elaborate his senses, put it in the proper place of the past, to locate that he had overcome the wounds of his childhood. Dancer never understands these paradoxes. This way of dealing with the world gained transcendence, became a psychological dynamics, and was in the background of his compulsion for cocaine. Among so many biomedical or moral treatments that he performed (psychiatric hospitalization, Therapeutic Communities, Narcotics Anonymous, and its 12 stages), none was able to understand the role of drug use in his psychological dynamics. The treatments kept him trapped in his structures in bad faith, without questioning them. They reinforced his psychodynamic. Dancer did not have mediations to help him build autonomy. Consequently, a deep alienating structure imprisoned him.

Until now, we have done the regressive analysis following Dancer's singular history since his early childhood, searching for the existential senses that have

structured and built his project of being and his various strategies of realization in his world of relationships. “Can we be satisfied with the results of the regressive analysis? We believe not. The regressive analysis restricted to itself shows itself to be imbued with a notion of causality that is incapable of allowing the understanding of the totalizing project in its original dialectics” (Castro, 2017, p. 124). It is necessary to think about the universal dimension of Dancer’s experiences through his historical dialectics, discussing the objective infrastructure present within his social and epochal context.

Progressive Analysis: The Social Conditioners Involved in Dancer’s Trajectory

First, let us discuss Dancer’s family context. His biological father was wealthy and sustained by luxuries and demonstrated the petty-bourgeois values that founded the rationality of the constitution of Dancer’s project. His mother, even after the divorce, struggled to maintain their economic standard and family values. From the discussion that Sartre (2002) makes about Flaubert’s biography, we can bring some reflections that serve to understand Dancer’s situation. The existentialist questions the meaning of the statement “to be part of the bourgeoisie.” We realize that it is not only the family income or the intellectual and artistic nature of the work of his family members that led Dancer to be a bourgeois: he is part of the bourgeoisie because he was born into it, which is because he appeared amid an already bourgeois family (Sartre, 2002). This condition is the singularity of the story lived daily in the contradictions of this family, which makes Dancer, immersed in his naivety childish and in alienating structures, perform the learning of his class. “Chance does not exist or, at least, not in the way one imagines: the child becomes this or that because he lives the universal as private” (Sartre, 2002, p. 56). Dancer’s statement enables us to understand this feeling of class belonging:

> I always idolized my father and put my stepfather down there, a little because of his social class. He was a very hard worker; he had a good job and everything, but my father came from a very good family. I made that difference, I went to my father’s house and my aunt’s house, I saw an absolute luxury; and with him, with my stepfather, he was a harder worker, middle class [sic].

For this reason, Sartre (1997) reminds us the “bourgeois” is not only defined as a *homo economicus*, who has special power and privileges within a society. It recognizes himself “from within” as a conscience that does not acknowledge his belonging to a class. In other words, Dancer sees the other as a defined social class – the worker, the middle class – but to himself as a kind of natural condition, as a privileged status a priori. He incorporated the petty-bourgeois values and a dynamic of being of disengagement with others and with the structures of work. He was not responsible for his relationships, taking himself as the center of the world, and the only aspect he was interested in safeguarding. We can see how this attitude brought

paradoxical loneliness and abyssal fear. Dancer was not able to recognize the source of his affects, nor did he know how to get rid of them. The only way out he found was to numb himself so that he could live the power chemically for a few minutes, which he believed to be a natural heir. In this escape from the anguish of adopting bad faith, he needed the next dose and, once the servitude cycle of drugs was instituted, he needed to deal with the persecutory delirium that followed the use of cocaine. A dependence dynamic trapped him in these alienating mechanisms.

His professional choice for the classical ballet was another of his project strategies, forged in the social class ideology, as we saw earlier. According to Almeida (2014), this ballet modality was born and developed in the European courts, being used as a form of training of the elite's way of being. "Nobility, discipline, impeccable physical appearance, and elegant social behavior symbolized conditions of physical and social development that served as a model for the court" *(*Almeida, 2014, p. 01). He performed in elite events that represented the glamour of noble art. At the beginning of the twentieth century, ballet began to be questioned as a hegemonic dance modality, and new dance forms and techniques were emerging. However, classical ballet still had its place and guaranteed the representation of body discipline and aesthetics through modeled bodies and behaviors. A new phase of the civilization process was taking place, and the bourgeoisie assumed the rituals of court society, such as the valorization of arts and culture (Almeida, 2014). Dancer carried out his project of being forged in his family nucleus following the paternal model by becoming a dancer: "at that time my father was my idol because he was a bohemian, a painter, taught in the fashion galleries, it was very glamorous, so, for me, that life was pretty cool" [sic].

However, like every choice, there is always a price to pay. In his case, the rigor of discipline to be a professional dancer stifled him. The challenge of winning rehearsals and giving a show at the premiere soon lost its charm. He ended up sinking into drug use: "at the premiere, I always went with a clean face, because of the music and everything I did not know, but then I got used to it, it was easy, I had to play a role, then I started to smell it, each work I did was looking for a different drug to play the role. In the end, I was tired of success" [sic].

These ambiguities marked his professional career until he was lost in the process of drug use and had problems with justice because he was confused with someone involved with a drug dealer. Thus, he had to leave his country and went even deeper into his dependence on drugs. He underwent several traditional treatments, whose focus was only on abstinence, but not on changing the dynamics of addiction. Therefore, he continued to live through the endless anguishes that caused him to crack and invariably relapse into drug use, according to the contradictions and impasses of the situation. He lived into a coming and going of guilt and reparations, a prisoner of his dichotomy, his lose-win game. Four years after the research interviews, we knew that Dancer had passed away. Unfortunately, he died on the streets of the city where he lived of a heart attack due to an overdose.

The Existentialist Clinic Facing Problems Related to Drug Use: By Way of a Conclusion

As we saw earlier, every person is being-in-situation. This premise is the theoretical underpinning for all Sartrean Existentialist Psychology in the understanding of the human being, and consequently, the clinic derives from it and can be defined as the clinic of the situation (Alvim & Castro, 2015; Englebert, 2017). This clinic apprehends the personality from the psychosocial context with their subjective experiences that express the "interiorization of exteriority"(Sartre, 2002). The first step is to understand the current suffering. After this, the psychotherapist has to investigate the genesis, rescuing the past trajectory (the singular history in the real contexts of life), aiming at recognizing the construction of its future senses. This process is necessary to understand its project of being and the person's psychological dynamics. The future has a unique importance in this clinic because every social situation is always a situation of overcoming, one still going beyond, towards the realization of a being that we are not yet, but that we wish to realize. Even if that choice is to remain where we are, to keep what we are, we are already being and recognizing ourselves as being. Even so, it is a being-in-relation-to-the-future, a characteristic that is proper to the human being, which is known as temporality (Castro & Ehrlich, 2016; Englebert, 2017; Schneider, 2011).

The comprehension of the human dimension as temporality apprehends the acts, the emotions, and the choices as significant, aiming at clarifying them by their goals (Sartre, 1997). The ontological dimension proposed by the existentialist understands the temporality in a constant movement towards the future. The realization of the project of being through psychosocial mediations is the key to understanding a person's history. The "Possible' 'is demarcated by the objective situation of the person, her material, social and historical reality, outlining her choices.

Therefore, the existentialist clinic requires an extended look, which can apprehend the integral human being by considering them in their unique situation and intertwined with the multiple collectives structures of belonging – family group, friends, and work relations. In turn, these collectives reproduce in the micro bonds what are the values imposed by the civilizing process of their time. Every human act is significant and endowed with meaning, however simple it may be, referring to the singular experience of this chain of collective mediations. The elections of the profession, the definition of close friends, the option of drug use, the identification with a political project, all of these acts are examples of choices that define the person's being, but at the same time express the values of their historic moment. (Castro & Ehrlich, 2016; Englebert, 2017; Schneider, 2011). This comprehension is what we have just learned from the discussion of Dancer's life story.

The existentialist clinic method involves the investigation of the living dimension and the pre-reflective experiences that are experienced as incommunicable and incomprehensible by the patient. Nevertheless, they become communicable and understandable once they are unveiled. As phenomenology discusses, we need to practice the first-person psychopathology, as the initial stage of any diagnosis, when

starting from the unthinking. Then, in the next step, it is necessary to arrive at the experiences of the second person, or rather, at the person's narrative about themselves and the world around them. In this way, we understand the structure of their choices immersed in their possibilities.

Therefore, the role of the psychotherapist is to understand the meaning that each person attributes to his environment, to themself, to others, seeking the singular and universal structures of being constitution. This understanding extrapolates the explanation or interpretation since it cannot merely be an analysis made from the outside. The dialectic comprehension immerses the user in his movement toward the objective result of his actions.

About drug abuse, the existentialist clinic should try to comprehend the function of the drug through the user's life, by the person's project of being, because in it lies the sense and the core of the abuse. In the clinical process, the psychotherapist should build the knowledge of drug use with the users, such as the way out invented by them in a moment of bad faith, suffering, and despair (Sartre, 2015). It is necessary to rebuild the bonds with significant people, rescue relationships, and build new sociological possibilities. Because if it was in the contradictions of family, labor, or friendship experiences that someone invented the way out of drugs, it is in the reconstruction of the bonds and personal networks that it will be possible to resignify the user's project of being. Dancer has never been successful in treatment. The change in his behavior was made out of his experiences. He obeyed the rules he was required to follow in order to remain abstinent, but without understanding his psychodynamics, his difficulties in handling his anxieties and fears. Therefore, without the intelligibility of the drugs function in his life. He fled from any situation that would affect him and gave him some emotionality. Thus, he remained in the absolute solitude that haunted him, taken by the existential emptiness that devoured him and, therefore, prisoner of the effects of the drug to deal with his unspeakable and misunderstood impasses.

We want to highlight Jaspers' (1973) recommendation that psychopathology should be understood "from the inside" of the user experience. Thus, clinical intervention only makes sense if it is performed from within the experience, to make sense to the patient. This loneliness is the reason for many relapses in the use of cocaine. He lived in the greatest guilt because he believed that he did not have the inner strength to overcome his addiction, or was not guided by the "forces of good" (a God, a saving therapeutic program). He had no idea that this treatment, while relieving his distress, as an accomplice to his bad faith, was, on the other hand, the maintenance of his imprisonment. The practical solution should be to reconstruct the possibility of living a real life with friends, romantic relationships, and family in order to recover the lost meaning of your project of being.

The existentialist clinic should make possible the experience of freedom in its fullness, that is, the person's experience in choosing the paths and resumption of his project reins. However, for this to occur integrally, it is necessary to overcome the bonds of their dynamics of dependence, which imprison them in their certainties of being and lead them to their compulsivity. The initial reliance on a psychoactive substance can easily be replaced by dependence on another person, a religion, or an

institution, which does not return the integrality of their being, the autonomy. Treatment to be effective is not enough to stop using drugs. It is necessary for the user to understand and overcome the reasons that constituted the function of substance abuse, as well as the relationship of dependence on any other object and the compulsive dynamics. Only then, the relapse cycle is interrupted (Pires & Schneider, 2013). The challenge of this clinic, based on phenomenological and dialectical ontology and epistemology, supports a critical perspective for the field of drug abuse interventions.

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Chapter 12
Jungian Psychotherapeutic Practice in the Treatment of Alcohol Dependency and Other Drugs: Limits and Challenges of the Application of Analytical Psychology to the Dependency Phenomenon

Claudio Silva Loureiro and Thaís Gracie Maluf

Introduction

Analytical Psychology is the name given by Carl Gustav Jung to the school of thought founded in his work to distinguish it from Freudian psychoanalysis. His theory is also based on the construction of his personal path as an attempt to understand the functioning of the personality and its correlation with the phenomena found in the psyche, which for Jung is located both in the realm of individuality and in the collective expression inserted in the culture.

The practical application of Analytical Psychology is demonstrated through psychotherapy, which has as its method the clinic with a focus on the construction of the diagnosis. From the elaboration of the history of the complaint brought by the patient, this process does not focus only on organic factors of some mental disorder but also on the production and psychic narrative of the affected personality. The task of psychotherapy is to translate the unconscious circumstances that make the disorder possible and sustain it in the present. Jung was fundamentally concerned with analyzing and understanding the creative forms of personal symbolic expression as well as the spiritual forms of the collective unconscious through the singular movement of those under analysis. His thoughts opened new spaces for the application of his psychological theory, when he offered significant collaborations to establish, in an interdisciplinary perspective, creative studies about the spiritual values expressed in the cultural manifestation of Humanity.

Jung is widely recognized as prominent in contemporary Western thinking and its role is important in the formation of psychology, psychotherapy and psychiatry.

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A large international community of analytical psychotherapists works under his name, thus configuring the institutionalization of his thoughts as a training school for new analysts. Their ideas have been widely disseminated in the arts, anthropology, the sciences of religion and symbolic readings within some esoteric practices, among them astrology.

Focusing on the limits and challenges of Analytical Psychology to understand the phenomenon and the psychotherapeutic practice of addictions, the objective of this chapter is to reflect and weave considerations, privileging a single clinical experience of Jung in the care of an alcohol-dependent patient. This reference is revealed through a letter received by him, which brought news about the fate of this patient.

In this work, no post-Jungian references will be considered that also addressed the theme of dependencies. The main criterion of exclusion was to find in these other ideas more a correlation between myths and their theoretical collaborations, rather than a discussion that actually presents clinical practice. However, these various views offer important indicators to be exercised in psychotherapeutic investigations.

This section on Jung's experience presents the limitations of a look, among many other possibilities, to understand the phenomenon of dependencies. Due to its complexity, in most cases, it is not possible to be fully contemplated in the psychotherapeutic process, given the need for more intensive care in crisis situations both in alcohol dependence and in other dependencies.

The many facets of substance use addictions, which must include other forms of care, require a broad assistance network and an institutional body composed of a multidisciplinary team within an interdisciplinary context. The consistency of this network's support only becomes effective through the partnership of public policies that integrate actions within a vast process of sociability.

There are two models of public policy in Brazil to support these actions: one that privileges the need for abstinence as an end to be sought, and the other known as harm reduction, whose prerogative is the most active attitude of the patient in the construction of management in the face of crises arising from the consumption of the substance. This has the pragmatic purpose of making other care possible in a more global health perspective, besides finding less harmful forms of consumption for patients who do not manifest a demand to leave the drug. In the psychotherapy experience, depending on the degree of commitment of the patient in the use of the substance, this will define clear limits on what can be done.

Carl Jung's Clinical Experience in Alcohol Dependency Treatment

In 1961, Jung received an unexpected letter with news from Roland H., his former patient. He was a successful businessman, but with great problems generated by compulsive alcohol consumption. Several attempts to "cure" were frustrated until

within a year of analysis, he obtained a momentary "cure". A year later, in 1931, he had a relapse and returned to seek it. In this meeting, Jung explained to him carefully that psychiatric treatment in his case would be useless and that through a religious or spiritual experience he could find a way out of the desperate situation he had been establishing with the compulsive consumption of the beverage.

In this letter, written by Mr. Wilson Griffith, he not only reported the death of Roland H. but also told about the positive effects of the guidelines given to him in this last meeting with Jung. In the letter, he reported that Roland H. had "healed" himself definitively after having had an experience of spiritual conversion at *OxfordGroupe* who, through a mutual friend, healed in the same way, also obtained not only his own "healing" but also the vision of a group of alcoholics who would share their spiritual experiences with each other. This culminated in the founding of the Society of Alcoholics Anonymous.

Jung responded by offering more details of what he thought when he prescribed this guidance to Roland H., as transcribed below:

> Mr. Wilson,
>
> Your letter was very welcome. I never heard from Roland H. again, and sometimes I wonder how he was doing. My conversation with him, which he correctly told you, had an aspect that he did not know. The reason was that I couldn't tell him everything. At that time I had to be extremely cautious about everything he said. I found that I was misunderstood in every way. So I was very cautious when talking to Roland H., but what I really took into consideration was the result of many experiences with men of his type. (Jung, 2003, p. 319)

In this passage, still without explaining his thoughts about this conduct, Jung relied on the observation of other cases that managed to confront the harmful consumption of alcohol from an experience of spiritual, religious conversion and this, in some way, supported the orientation directed to Roland. On the caution of what he failed to say, we conjecture that in 1931, the year in which this care took place, his thought was judged by the scientific society of the time as having a strong mystical character, which perhaps contributed to not detailing his reasons to his patient.

In another passage, Jung sets out his understanding of alcohol dependency:

> His anxiety for alcohol corresponds, at a lower level, to the human being's spiritual thirst for totality, expressed in medieval language: union with God*. (Jung, 2003, p. 319)

How to formulate such an understanding in language that would not be misinterpreted today?

> The only correct and legitimate path to such an experience is that it really happens to us, and it can only happen to us when we walk on a path that leads to a higher understanding. We can be led to this goal by an act of grace, through personal and honest contact with friends or through a higher education of the mind, beyond the limits of mere rationalism. I see from your letter that Roland H. chose the second path which was, under the right circumstances, obviously the best. (Jung, 2003, p. 319)

In this fragment, the notion that there is a purpose in the movement of the symptom is presented, resulting in a prospective direction. This is how Jung thought about the function of the symptom within the psychotherapeutic process. The direction that follows in this understanding flees from a causal relationship or from the symptom

being only a reaction to a traumatic or poorly resolved situation in a period in life that needs to be identified and in this to be overcome. This inversion of direction in the way of valuing and understanding the function of the symptom, with its conflict, presents a deeper call from the unconscious, according to its understanding. This creates possibilities to promote a movement of search so that the subject awakens in his consciousness not only the negatively repressed aspects in his unconscious but also the new potentialities that allow, in this singular search, the best of himself and the other in the lived experience. This way of looking at your clinic privileges the creative aspects of consciousness. This path within Jung's psychotherapeutic process is instituted as a process of individuation.

Therefore, consistent with this way of observing the psychotherapeutic process, Jung understands that the potential of a need for a more spiritualized connection lies dormant inside the behavior of alcohol use. It is important to distinguish that this is not an institutional religious conversion, but a very personal experience of *religare* for each one who experiences this expansion of consciousness and makes a deeper vision of life as a whole powerful. This singular experience with the divine, coming from the unconscious itself, creates the possibility for the psyche to inaugurate in this relationship the existence of something superior to man.

It can also happen from the peculiar personal and honest contact with friends and group situations, enabling a higher condition of consciousness. Both the search for the divine and the personal and group contact with the other does not take place in a rational way. In Roland's case, everything indicates that both circumstances have occurred, fundamental conjunctions that have established the great pillar of the Alcoholics Anonymous society movement. In the first step, the belief in a superior, sacred power. In a later moment, the opportunity to share among the pairs of spiritual experiences about the way each one experienced the search for the divine within, as well as the construction of the new values that emerged from this transformation.

In order to foster an understanding of what underpinned Jung's conduct in guiding his patient in the search for an experience of religious convergence, we will travel through Jung's encounter with the philosopher William James.

William James' Influence on His Way of Understanding Religious Experience

The thought of the American philosopher and psychologist William James contributed greatly to Jung's understanding of the religious experience. The personal meeting between them took place at *ClarkConference* – held in 1909 in the United States of America (USA). On this occasion, Freud and Jung (Freud's disciple at the time) were invited to a cycle of conferences to present Psychoanalysis to Americans.

Although Jung only met William James personally at this event, he had great contact with his work and had been using it ever since he had presented his concluding work in his Psychiatry training.

There would be many interesting links to highlight the influence of the American philosopher and psychologist throughout Jung's theoretical journey, especially after his rupture with Freud, however, the understanding of both about religious experience and his critical reflections about theologies and religions in the face of this psychological and unique experience of the psyche stands out. In summary, the point that influenced Jung's vision on the subject and what was developed from it will be presented.

William James, in his book *The Varieties of Religious Experience: A Study of Human Nature* (1991), in framing this experience in the psychological field, presents the record of several conferences in order to present, reflexively, some limiting points for the understanding of the psychological experience of spiritual conversion, both in religion as an Institutional experience, and in the rationality constructed in the arguments of Theology.

James circumscribes the psychological dimension as the subject of his study, after exposing several limitations of understanding that appear in the figure of critics of religiosity. He ponders that there is a great epistemological confusion to better understand it, because neither Theology nor Sacred Literature reaches the unreasonable aspects of this unique experience of the subject that can produce a change of conduct and a different vision of life. Nor did the medicine of the time consider these configurations, since it tried to give greater emphasis to the morbid aspects to the detriment of the meaning and significance that is produced in the consciousness.

In the psychological experience of religiosity, there is madness, eccentricity, an emotional intensity that is also potentialized by the body: the production of a practical and concrete truth is realized that will be sustained by an integrated body of physiological, psychological and spiritual actions. For James, the result of this manifestation, his truth, is in what can best be pragmatically evaluated in the course of life. This will occur through the change of conduct of the individual, when from the new values that arise from this relationship with the divine, as invisible, in the passage from the state of ordinary consciousness to the extraordinary, the emergence of new affections and values is promoted, making the person transformed, with a new understanding about himself and about life.

James' great interest in this theme is to understand the singularities present in the way religious and spiritual experience is given and the result of this from this experience of conversion within a wandering conduct. Conduct that was once guided by dependencies or constituted by a lack of more spiritualized values. The passage and realization of change to a more virtuous and emotionally meaningful life gives new ballast for a new practical vision in life. It also points to the existence of a tenuous and in some way even coexistent border with madness. This reinforces that the phenomenon itself occurs in an atmosphere of lowering of the ordinary state of consciousness, emphasizing that no rationality is observed in this. There is a great

emotional and affective intensity capable of producing significant changes in the psychism.

James (1991) also points out that in the altered state of consciousness there is a great openness to the yes, allowing a very different experience of ordinary life to be powerful enough for the development of a new vision. To contrast this aspect, he reminds us that it is not possible for this openness to occur in the state of ordinary consciousness because in it the no, the notion of limit, a structuring aspect of the preservation of practical life oriented towards repetition, a psychic element that sustains daily life.

This vision is also present in the way Jung understands the experience of religious conversion. Within this terrain, Jung's contribution has been to bring a new perspective of what can be called spiritual, by broadening the concept of the unconscious, dividing it into personal and collective, by finding in the symbols expressed by the psyche its universal character of many collective spiritual experiences about the way the human being is in the world, placed as an "exemplary model", according to Mircea Eliade (1989), and in her words as archetypes.

Returning to the letter, Jung exposes in a convincing way that…

> ...] The principle of evil that prevails in this world leads to spiritual need that is not recognized to perdition, if it does not count on the contradiction of a truly religious attitude or on the protective wall of the human community (Jung, 2003, p.219).

He still does:

> An ordinary person, not protected by an action from above and isolated from society, cannot resist the power of evil, which is appropriately called a demon (Jung, 2003, p. 219).

In a way, Jung glimpses the influence of how the perception of the invisible is understood in human lives and how it can enthusiastically influence, through a more affective than rational predominance, and from this, promote higher values to resignify, offering a new direction to conduct. Although this invisible one is named by him as spiritual, it gains a greater amplitude if we reflect that it also points to the very result of what would be the psychotherapeutic process: the access to the unconscious. Through the narratives about life that bring in themselves, also in a veiled way, the influence of archetypal symbols in the way of valuing and understanding these situations, the process itself gives the possibility of integration of the various loose parts of the psychic potentials that inhabit inside out. In a certain way, a path of *religare* develops in the psychotherapeutic path.

The ordinary person, undifferentiated or psychopathologically taken by absolute notions, does not establish this type of relationship with herself. They have a literal understanding of themselves and of the world, suffering from the absence and lack of affectation that promotes dislocation within them.

The invisible of the psychotherapeutic process itself has been mentioned, but there are other possible places of this: both in group experiences, in which this movement of search is somehow catalyzed, and in therapeutic and self-help groups, or in a mystical and spiritual experience, a situation that Jung privileged in his referral to Roland and which he justified years later in his letter to Mr. Wilson Griffith.

It is important to emphasize that this referral of Jung was not unexpected or improbable, since this patient had been his patient for 1 year, reaching a partial result that temporarily promoted the cessation of alcohol consumption. This path, even though not having a definitive result, seems to have allowed him to have a slightly clearer notion of Roland's psychic potential to achieve a more effective transformation through a spiritual search outside his office, which is later confirmed in the letter's account.

The principle of evil, the figure of the demon brought by it, perhaps points to the blind way in which the human being can deal with rationality, institutional religiosity itself, ideologies, pleasure and power. This division defined in absolute territories of truths and lies, inserted in Manichean values as good and bad, produces contradictory behaviors that are not perceived, but act in the experience, collaborate in the psychic repression that fragments and weakens the potentials of the personality. When this happens in an autonomous way in the psyche, there is a tendency to produce a very literal look at reality, without any space for the invisible and the interchange between opposing borders outside and inside us: this would be one of the facets that we interpret as the concept named shadow.

The emphasis on the concept is being given more to the negative aspects, because in the context this is the direction that Jung transmits in his reply letter, when he argues about the need for Roland to seek a more spiritualized experience, based on the observation of other similar situations in which the same path had been followed. This way of understanding the effect of religious experience meets William James' thoughts on a specific psychological typology of people likely to be affected by this type of experience. James noted that part of the profile of people who lived this experience were those who needed to be morally reborn. In the case of dependencies, and also in other expressions of madness, this statement can make a lot of sense.

It is worth pointing out that the expression "morally reborn" used by William James does not establish any relationship with evaluation criteria of conduct judged as "right" or "wrong", but points to the process of transformation in the psychism expressed in the aspects of volition, affectivity and values of thought from the amplification of the state of consciousness, occasioned by a singular experience of psychological experience of religiosity and spirituality (James, 1991).

In the end, Jung establishes an associative relationship around the etymology of the word alcohol, in Latin *spiritus*, inviting to a symbolic thought of the term and thus highlighting, in the same word, the other meaning that defines the highest religious experience. Jung clarifies that in alcohol dependence, as in all, there are two opposing directions. In one direction the *spiritus*, the beverage as a "most harmful poison" that performs the function of anesthesia of the unknown and disturbing yearning generated by the ignorance of the spiritual experience. In the other direction of *spiritum* meaning, which promotes the highest spiritual quest. This conclusion points to a homeopathic way of understanding this suffering of the soul: the *spiritus* in conflict with *spiritum* (Jung, 2003).

This definition illustrates well, according to the previous mention, the way in which Jung privileges the singular potential of the individual's psyche, thus pointing

out that there is in the symptom, besides a retrospective movement on the way it is produced, also a prospective and creative direction. This direction, in the process of individuation, initiates a path that offers the singular subject the opportunity for greater integration in the consciousness of other unconscious aspects of his psyche. This occurs in some ways, through the archetypes present in the symbols that present themselves through the way of dreams, active imagination and also in the way of collecting representations of daily life that contribute significantly to this dive into the interiority, named by him as "the dark journey of the soul".

To date, no other experience of Jung himself has been found regarding other care for alcohol-dependent patients or those who use other drugs. Only this record is revealed through personal writing, in the form of a letter, which at least leaves traces of how he understood this issue.

As noted in Roland's fate, and with him a little of what he experienced from Jung's therapeutic interventions, indirectly an important contribution is made to the process of legitimizing the principles created in the society of Alcoholics Anonymous. Over the years, this society has expanded in the world and today many patients benefit from this resource. The same structure of these principles has opened up for people who use other drugs and also have behavioral compulsions such as gambling, sex, among others.

However, one important aspect should be highlighted about these self-help societies. This concerns a certain deviation from the original proposal that was the practice of these meetings in autonomous, non-profit spaces without the legitimization of Psychiatry as a therapeutic resource. In the present time, there is a great proliferation of closed clinics and treatment centers for substance dependents that bring the resources of this sociability, naming it as "program". It is possible to observe the trivialization of the original principles through the production of empty speech to the detriment of a true spiritual experience. This situation resembles institutionalized practitioners of the faith, with precise knowledge of sacred books, but who have not lived emotionally or even have not allowed themselves to be affected by the mysterious provocations of this experience of conversion. An important consideration to consider is to reflect on who would benefit from this resource in the contemporary world. There is great power in the groups that remain autonomous, detached from the Psychiatric Institutions, because they are touched in a similar way to the original movement: in the spaces of the parishes, the Protestant temples, the spiritist centers, the sub-located or ceded rooms in commercial buildings. Thus, the degree of surrender has the chance of not being contaminated with the idea of learned discourse, a phenomenon that happens very often in the reality of Psychiatric Hospitals and treatment centers, where some patients incorporate this discourse – without living the experience – believing, with this, to obtain discharge from hospitalization.

The Phenomenon of Dependencies and Their Challenges and Limits in Psychotherapy Work

This topic raises some questions that are particularly relevant today. Considering the phenomenon of dependencies, is the model presented earlier based on such a complex problem? Does it cover all the demands of understanding the phenomenon? In parallel, does the way Jung understood the issue of alcohol-dependent patients apply to others who consume other psychoactive substances? By further framing the question included in the proposal of this text, could all patients with this problem contemplate the psychotherapeutic process?

At first, it can be said that the direction given by Jung partially attends to this audience, for not everyone presents this call for a search for the spiritual within, at least not in the way he understood. Without this, which is the fundamental step to be taken in this quest, no engagement is possible, nothing happens. Whether it is in a doctor's office or in a self-help group.

What is marked, is that Jung does not sustain psychotherapeutic care as a powerful and fundamental way to face this problem. Did he not believe it was possible? Or does this lead him to reflect on the limits to accept this problem in the *setting of* psychotherapy?

Over the years, the phenomenon of dependencies became more and more widespread and complex, as it was realized that it was not something that could be justified only by a moral deviation. The understanding of contemporary psychiatry that maps comorbidities, such as psychopathological mood pictures, psychoses and anxiety disorders, is revealed to be active in the phenomenon of drug use and dependence, when it is understood that, in part, the consumption of the psychoactive substance can function as a kind of unconscious "self-medication" for the agitated states of the soul. Another highlight was the evolution of differential diagnosis around the pattern of use, which helps to map the degree of severity around the consumption of the substance and with this, establish treatment strategies. This categorizes consumption patterns: recreational, occasional, abusive and dependent. These indicators are of paramount importance for guidance on the possibility or not of an individual psychotherapeutic process.

Next, a brief sociocultural overview of drugs will be presented, in order to return to the subject and, with this, to be able to better locate the issue of addiction psychotherapy, dialoguing with the vision brought by Jung.

The consumption of psychoactive substances accompanies mankind throughout its history, presenting variations and specificities according to the historical moment and the social and cultural context in which it is presented. Since the twentieth century, in particular, there has been a significant increase in the use of these substances that alter perceptions and behavior, now understood as a social practice present in all spheres of society, including various social classes, and not as a behavior restricted to certain social groups (Bergeron, 2012). Drugs, in general, have gained space in society in a broad sense, even representing a certain *glamour* or *status* in certain segments, such as the consumption of marijuana and other hallucinogens in

the 1960s. The consumption of the substance in this context and especially in the emerging groups, in the movements of counter-culture, had the function of expanding collective affectivity and also to seek extraordinary experiences of self-knowledge, of creative achievement through the plastic arts, poetry and music. Within this movement, the consumption of the substance also came as a form of contestation of the society of the time. It is possible to recognize even a certain aesthetic reverberation giving ballast to this intoxicating collective realization from the literary movement initiated by Allen Ginsberg, Jack Kerouac, Willian Burroughs, among others of the *Beat* movement, and in music, especially in rock, in the production of songs that made lysergic references sung by Jim Morrison and The Beatles, among others. In the academic field, there were psychological experiences by Timoty Leary with hallucinogenic substances, also found in the books *The Doors of Perception*, by Aldous Huxley, and *The Devil's Herb,* by Carlos Castaneda, bringing reports about the experience of perception alterations.

In the 1980s, the illicit drug chosen was cocaine, a substance chosen by successful bohemian youths, known as the *Yuppie* generation and described as being much more conservative compared to the *Hippie generation*, because they did not embrace any social cause and did not carry out any contesting militancy over the society of their time, showing privilege and prominence for the fact that they earned a lot of money professionally. In this context, the consumption of cocaine symbolized the capitalist power of conquest and success. In this period, sexual promiscuity behavior expanded. Despite being a disease that emerged in the 1930s, AIDS was identified and transmitted throughout the world in the 1980s. Curiously and not by chance, a greater frequency in the abuse of benzodiazepines is observed and the dysfunctionality in the consumption of alcohol begins to appear early still at the end of the youth period. In the mid-1980s, a certain division of "social classes" was observed around the consumption of cocaine, and *Crack appeared,* a byproduct of cocaine that was initially used in the poor neighborhoods of downtown New York City. In the 1990s, *Crack* consumption expanded not only to the reality of street people, becoming a harmful habit for people located in different social classes. In Brazil, we have this phenomenon in an almost "epidemic" category, made explicit in the existence of "Crackolandas".[1] This is a situation where the possibilities of understanding are mixed to discern the determinants of their existence, because significant elements of the process of social exclusion are much more expressive than the devastating effect of this substance.

Unlike other substances, this is a drug without any *glamour*, because it evokes a certain "nihilism" in conduct where value has no value. No aesthetic experience, no spiritual quest, no active contestation movement can be located in this scenario. In the consumption of *Crack*, it is possible to observe that there is an active search for

[1] **Crackland** (by derivation of crack, crack+land = land of crack) is a popular denomination for an area in the center of the city of São Paulo, Brazil, where historically intense drug trafficking has developed and a proper circuit of complex sociability, because the permanence of people in this territory would not only be determined by the consumption of "Crack", but also as a result of other processes of social exclusion.

a state of helplessness, demonstrated in the degree of self-abandonment that the individual dives quickly. These are abandoned houses and factories, decaying streets, the image of a malnourished body. In it, one finds an image that refers to a touching state of misery of the human condition.

From this panorama, it is possible to understand that naming dependencies as a complex phenomenon is not a mere rhetorical resource, but historically fundamental to return to the initial question about the framework of psychotherapy and its possibilities of care for those suffering from this problem. Certainly, the historical moment that Jung lived was very different from the current one. In a way, he has a much more committed social system in his process of illness and death of resources. However, paradoxically, there is also a broad understanding of the dependencies arising from other fields of knowledge, specifically Neurology, Sociology and Anthropology. Simultaneously, the great advance in the development of the diagnostic and medical resources of Psychiatry, when well applied, become strong allies in this process.

The product of this development is reflected in the increase of perspectives to observe greater resources of care to meet this demand more attentively, with at least two models of treatment: that of abstinence as an end and the model linked to the practice of harm reduction.

In Brazil, the offer of public resources is now proving to have more alternatives for treatment, in addition to the use of hospitalization. The Centers of Psychosocial Attention (CAPS) offer intensive care without having to exclude the individual from social and family coexistence; the beds of Psychiatry inside the General Hospitals provide a more globalized health care; and there is also the practice of the field of damage reducers to establish contact with users who are in the scene of use, on the streets, and have not yet accessed the care.

Besides Brazil, we can mention some countries in Europe, already with great tradition in the experience of damage reduction, such as Holland and France. In the North American continent, there is Canada, for example. But we chose to mention the experience developed in Portugal for two reasons: Portugal was one of the last countries in Europe that made this practice official in its public health policy, because it met strong resistance from the population, from some rulers and also from professionals more connected to the traditional model of treatment based on the purpose of abstinence. Barbosa (2009) demonstrates the persistence necessary for the implementation of the practice of harm reduction in the exercise of its strategies, since only after many years it was adopted as another model of intervention to face the phenomenon of addictions. In addition, another reason is the fact that today the country is a reference as a model of public treatment for addictions, having both models in its health system. Furthermore, Barbosa (2009) presents a very pertinent thought for the understanding of an aspect of the ethics of harm reduction, when she states, “Harm Reduction is not exactly a peaceful concept in political and ideological terms”. This reflection opposes the resistance arising from the predominant treatment culture in his country. On the one hand, it can be seen that professional practices continue to be more oriented towards treatment and drug-free programs. His thought is very well illustrated in his work from the historical survey he presents

on the various phases of the practice of harm reduction in Portuguese until it is legitimized as public policy. He categorizes these historical moments as: Clandestine Phase, Experimental Phase and Political Legitimation Phase. This period runs from 1977 to 2005. The great result that sustained the practice during all these years and then resulted in its implementation by the Government of Portugal in a longitudinal manner, i.e. independent even of the political nature of those in power, was the great impact that the harm reduction practices brought about in the consistent decrease in the rates of violence and transmission of infectious diseases.

It is important to highlight that in the reality of private care, these resources cannot be fully utilized, because in the private practice we do not have the support and sustenance of a public policy that allows stability in the realization of these practices. On the contrary, in the private context professionals are at the mercy of the possible payment conditions and the variables present and acting on the expectations deposited in the treatment, in terms of the amount paid and the response time. This ends up contributing for many referrals to follow the direction of the most conservative resource of hospitalization in *Spas* Clinics for people dependent on substances or Therapeutic Communities.

Returning to the specific clinical practice of psychotherapy, it is considered that for some cases it makes a lot of sense to think that the drug occupies a place of transport in the search towards some *religare* of the soul. The process of this search will be unique and will also depend on what can be lived as an extraordinary experience in this sphere named by Jung and William James as spiritual, divine experience. It is important to emphasize the need to broaden the understanding of what can portray this concept, because this can also occur through the consumption of an entheogenic substance, such as the consumption of *Ayahuasca*[2] in their cults.

However, could this concept of spiritual experience in more profane spheres, detached from the mystical or religious atmosphere, be present as a change in the state of consciousness when a change of conduct is processed from critical awakening and greater empathy for the other? For example, in political militancy, not necessarily partisan, but as an instant of appropriation of the exercise of citizenship, when there is a greater awareness of the fragile issues of the community itself?

In another cutout of daily life, in the discovery and realization of the creative processes of the soul, through poetry, music and plastic arts, which bring a more open universe of expression of the individual, here also would occur a differentiated state of consciousness? Finally, it would be very important that the notion of spiritual experience in this more "profane" cut could also be included in the studies and

[2] ***Ayahuasca*** (from Quechua *aya*, which means "dead, deceased, spirit", and *waska*, "vine", which can be translated as "dead man's vine" or "spirit's vine"), also known as **hoasca**, **daime, ygê**, **santo-daime** and **vegetable**, is an entheogenic drink produced from the combination of the *Banisteriopsiscaapi* vine with various plants, in particular *Psychotriaviridis* and *Diplopteryscabrerana*. The production and consumption of the beverage is widespread throughout the world, especially in western countries. Ayahuasca is often associated with rituals of different social groups and religions, as well as being part of the traditional medicine of the Amazonian peoples.

investigations of the clinic, in order to observe the multiple possibilities of the state of consciousness in these situations.

In clinical practice, especially that which takes place within Public Institutions, it is possible to scan that in the tortuous path of some patients, in a way can happen this *religare* through these experiences. The result of these discoveries, the new awakening of these spiritual powers, has a significant impact on the very adherence to treatment, the change in consumption pattern and even attempts to replace the substance of choice by another less harmful. What may limit the understanding of this form of spiritual experience would be the interference of prejudice and the influence of dominant moral values on the *status quo of* society.

One must be very attentive to the moral values that act in a dark way both in the consciousness of psychotherapists and in that of patients and their relatives. This aspect develops in a kind of "demonization" of the problem when it appears to relatives or professionals, thus preventing the picture that presents itself from being more precisely located so as to be able to discern the situations that can be welcomed in the space of psychotherapy from the degree of commitment that the individual establishes with the substance. A more serious picture is usually located in what is characterized as dependence. There is not, at first, the legitimate space to want to know. The crisis surrounding the crack and the unbearable pain of the lack of the drug requires a more intense therapeutic response through the establishment of a network of care that does not necessarily need to be limited to the resources offered by an internment. This may even be one of the strategies used, provided that the construction of this path is established with the patient's consent. This may even occur through a psychotherapeutic interview, but strictly speaking, it cannot yet be understood as a psychotherapeutic process.

In situations where the drug appears in a recreational, occasional and even abusive manner, it reveals a degree of commitment to the substance that can still be accepted by the psychotherapeutic process. In these circumstances, there are still resources of subjectivity and social insertion that well or badly are still preserved. However, this, by itself, is not enough, because the fundamental is that the question about the use of the substance is one among other demands of your life, so that from then on you can express some powerful restlessness and instigation, sustained by a transferential field that allows and creates the necessary atmosphere for a dive into the soul. Perhaps not everyone will immerse themselves deeply in the access of possible meanings and not stay long in the process. The periods of discontinuity are very expected, once one understands the size of the thirst and the amount of water one wants to drink and that one can offer.

Final Considerations

The experience of deepening this cutout in Jung's clinical practice, specifically in a case of alcohol dependence, proved to be very fruitful even as a symbolic invitation to this critical essay on his theory and its application in the exercise of

psychotherapy. This small practical scene on his orientation of the spiritual search made it possible to recognize the great influence of the pioneer psychologist William James and the degree of relevance of the subject when investigating altered states of consciousness in a posture of greater openness to the phenomenology of experience. Outside the psychotherapeutic *setting*, although there are studies in neurology and anthropology on the subject of altered states of consciousness under the effect of some psychoactive substances, there is still the psychological field of psychotherapy, specifically in the treatment of addictions, a vast space to be explored on how subjective values will be produced and realized in the conduct of an individual to the point of determining, within the chosen theoretical perspective, a more errant and dark journey within himself or a revealing leap of new potentialities, enabling a new vision of life to emerge and provide some transformation.

The great challenge of Analytical Psychology to collaborate more effectively with this theme comes up against the relationship established with one's own "language", when it focuses on the topic. Conceptual conjectures in the exercise of symbolic amplification and the hermeneutical preciosity of language end up losing the experience of the phenomenon, since it brings the risk of becoming another dilettante exercise of erudition and literature. The timid presence of Jungian theoretical production on the theme of dependencies in universities and in the reflections that originate from the practices carried out in institutional care makes the recognition of their collaborations in this field almost null. Without the ballast of experience and the political exercise of learning to coexist with languages different from their hermeneutic field, it produces the risk of elitist thinking. After all, what keeps a thought alive is the endless search for the improvement of the expression of what is already known or needs to be better understood, it is the movement that emerges from criticism directed at oneself or coming from the other, it is a state of restlessness connected to the changing character of life present in the values and spirit of our time.

This restless spirit made Jung a thinker committed to the call of his soul. His open mind leaves pulsating the predominantly more intuitive characteristic of his psychological type. This is expressed in his investigative attitude, providing a "kaleidoscopic" understanding of psychic phenomena, beyond what is merely psychological and pathological. He dialogued with knowledge and languages different from his own to make the multiple facets of the mysterious "logos" of the soul a little more intimate. In a way, it all began with his interest in altered states of consciousness, taking very seriously what Heraclitus of Ephesus once wrote: "walking you will not find the limits of the soul, even if you walk all the roads, because the logos it possesses are very profound".

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Chapter 13
Community Social Psychology: Contributions to Understanding and Practices of Drug Use Care

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Introduction

We know that the "world of drugs" is marked by historical, social, political, economic, and cultural issues, which puts it at the center of many controversies and has direct repercussions on people's lives, populations in particular and specific groups. From this, the actions and policies on the area have historically been adopted through moral/religious, criminal/legal, and medical/scientific discourse, navigating between a repressive eagerness or a technicalism that departs from the real world and the daily lives of communities (Ronzani, 2018).

Although there is no definitive answer to the question, we know that integrated care seems to be a path to follow (Ronzani, 2016). This integration is still incipient for the effective participation of people who consume drugs, in an active and participatory way. Within our professional tradition, actions, in general, place people passively and distantly from decisions about their own lives (Saforcada, 2008). For this reason, we will present below how Community Social Psychology can help in the planning of care actions for people who consume alcohol and other drugs, from a participative and sociologically situated perspective.

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Social Psychology and Its Main Aspects

The field of Social Psychology is considered to be one of the most important fields, influencing theoretically and practically several areas of knowledge of Psychology and other disciplines. In general, it is an area that presents a vision of man that is inserted in a specific social context, being impossible to consider the human being isolated from society (Álvaro & Garrido, 2006). From this premise, it is sought to understand behavior, feeling, subjectivities, and beliefs as a product of interaction between the human being and society, in its different levels (Michener, DeLamater, & Myers, 2005). Therefore, there is an influence of culture or of levels of society in a broader way (macro group), or even the fruit of direct interaction with more specific groups and institutions, such as school, work, neighbors (mesogroup), or even in the interaction with family members, friends, or people from social interaction (micro group) (Sarriera & Saforcada, 2010).

Defining the area is not an easy task, since several theoretical matrices have emerged from its development, with different epistemological traditions (Álvaro & Garrido, 2006). Anyway, it is important to highlight some fundamental historical moments for the development of Social Psychology. The first would be the attempt to establish Psychology as a science together with other areas of knowledge (Michener et al., 2005). This movement generated a systematization of research and knowledge production, which strongly influenced the themes, methods, and hegemonic conceptions of Social Psychology, with a concern to study the implicit psychological processes of the human being in interaction with his environment. A second moment was the World War II period, where several European authors developed theories and research on nations, groups, and authorities, with great influence still today. It is important to point out that many of these authors took refuge in the United States of America, participating and creating schools of thought under the influence of the American culture, which also defined the main ways of understanding man in interaction with his environment, with greater interest in the study and understanding of the dynamics and organization of small groups, placing the experimental model as the most appropriate method to study the human being, from this conception (Jacques et al., 1998). Finally, we highlight a movement of dissatisfaction with the Social Psychology developed until then, which was focused on the suitability of the area as a traditional science, thus using experimental methods and often without application in the real world and, consequently, with emphasis on themes far from reality and social relevance. This movement was born mainly from Latin American authors, from the so-called crisis of Social Psychology, which we will discuss in more detail below.

Despite these epistemological, methodological, and thematic differences between the various currents of Social Psychology – which we present in a very brief way and without the necessary detail – what is common among them and what is the contribution to the understanding of the consumption of alcohol and other drugs?

Trying to answer such a question, even if the focus is on small groups or with a macrosocial vision, the area calls it important that it is only possible to understand

the human being from his relationship with the other, that we are social beings in itself. Therefore, to understand the individual and his or her production of subjectivity, first of all, is to understand the human being in context and that, until the present moment, it has not been possible to isolate the "pure psychological entity," as it has been tried in some moments. Moreover, Social Psychology presents itself at the intersection with other areas of knowledge such as Sociology, History, Politics, Neurosciences, and Philosophy, among others. Again, this dialogue with other areas will depend on its theoretical root.

If we understand that the consumption of alcohol and other drugs is a complex process, which refers to several instances of humanity, and that there is no consumption without the interaction between the drug, the individual and its context (Nery Filho, 2012), any attempt to understand this issue in a unilateral way is impossible, or at least extremely limited. Social Psychology, regardless of its emphasis, is an area of extreme importance, but still little explored, in the field of alcohol and other drugs, because it seeks, obviously in relation to other areas of knowledge, to understand the subjective, contextual, and historical processes that will intermediate consumption and all its positive and negative consequences for the human being.

Obviously, we are not in charge of the naive discourse of textual or ideological neutrality. Therefore, in an arbitrary way, we present a perspective that we believe is useful for understanding and especially for concrete work, from the social perspective in the field of drugs: Community Social Psychology.

Community Psychology: A Field in Motion

As previously presented, Social Psychology was initially established as an area that sought to configure itself within the harder sciences, seeking to replicate and adopt methodologies and themes that would lead it to a recognition of scientific *status.* In addition, the way research, themes, and theories were developed was based on models designed for society and themes relevant to the United States and some European countries. This way of "doing" Social Psychology strongly influenced the formation of professionals and researchers around the world (Jacques et al., 1998).

However, at a certain point, some groups and researchers began to question the ecological validity of some experiments and the relevance of some central themes of Social Psychology, especially for specific social contexts, such as Latin America. This movement that began in the 1960s and 1970s was called the "Crisis of Social Psychology" (Jacques et al., 1998). From then on, an attempt was made to overcome the importation and transposition of the then hegemonic model of making and thinking the area, with the perspective of seeking a greater contextualization of some theoretical models, methods of research, intervention, and prioritization of themes more relevant to the needs of social realities of Latin American peoples (Álvaro & Garrido, 2006).

Then, some authors began to study topics of social relevance and developed or adapted research methods and interventions closer and contextualized to the

problems and realities of specific regions and communities, the social and historical aspect of these groups being fundamental to understand and act upon these conditions. This new perspective strongly influenced the formation of Psychologists in Latin America, leading to questioning and resistance to traditional and individualistic forms of practice in Psychology, with an approach to contextually based Human Sciences (Lane, 1996).

Along with this movement, other parallel experiences were being developed in communities of several Latin American countries, among psychologists militant of some themes, who sought, from their profession and articulated with other social groups, to make changes and face some adversities. These professionals, initially in a pragmatic and intuitive way, developed ways of acting based on their personal experience and the exchange of knowledge with the groups and the community. From then on, a practice of Psychology in the Community was formed (Lane & Codo, 1984).

The consolidation of the so-called Community Social Psychology, different from other specialties, comes from the territory itself and was built from the experience of psychologists of the most varied theoretical currents, but who, concerned with changing social reality in some way, have been systematizing their practices and sharing their experiences with other professionals. Parallel to this, the development of Sociological Social Psychology within universities, with an academic concern to understand and adapt theories to the realities and concrete needs of their countries has been gaining strength (Jacó-Vilela, Rocha, & Mancebo, 2003). Therefore, from the idea of indissociability between theory and practice and from the aspects raised above, what we call Community Psychology is established.

Currently, there is a discussion on whether Community Psychology is an applied branch of Social Psychology or whether it is an independent discipline. This is still a point to be discussed in more depth at another time. What is certain is that Community Psychology has been accumulating experiences, knowledge, and research in an increasingly systematic way, and can already be considered a field with theoretical and practical maturity, in constant production of knowledge and that does not need other areas such as Psychology of Labor, Clinical Psychology, Developmental Psychology, Educational Psychology, etc. It is also articulated to other disciplines such as Popular Education, Sociology, Philosophy, History, Politics, Ecology, and Collective Health, among others. Another fundamental point of knowledge production is the valorization of "popular knowledge," socially and historically constructed. From that point on, the emphasis on applied knowledge is established in Community Psychology. Therefore, the fundamental premise in the area is that "the best type of knowledge is what best applies to the community in which one works," with a strong influence of the pragmatic tradition (Sarriera & Saforcada, 2010).

We risk saying that, at least in Latin America, although Community Psychology has great influence from the emancipation movements of a Sociological Social Psychology, its accumulation of knowledge, production of experiences and systematization currently places it as an independent discipline of Social Psychology, being insufficient or limited to classify it as a specialized practice of the latter. As it

is proper to the concept of complexity of the human being and society, we also have different emphases in the way of making known Community Psychology and its dynamic character of making and producing knowledge in the area.

From this general contextualization, we will discuss how Community Psychology was configured in the Latin American context and its importance to think-act in the field of alcohol and other drugs.

"Nuestro Norte Es El Sur": For a Community Psychology for Latin America

As we have discussed before, the development and consolidation of Community Psychology is the result of moments of denial/affirmation. Initial denial, which calls into question the way in which some theories have been uncritically incorporated in countries of the Southern Hemisphere. These theories are much more thought out for other realities and considered universal. Although one must consider the universality of some psychological assumptions, the way in which such theories were automatically transposed has found a great limitation or even a distortion of the reality of this region. It is important to emphasize that this denial should not – or at least should not, in our point of view – deny some accumulation of knowledge produced until then, but that incorporated or contextualized some concepts or theories accumulated in history and not a passive and colonized acceptance of knowledge. The statement comes from the idea that in the southern hemisphere there is also an accumulation of knowledge of native peoples, with extreme cultural and technical wealth, and therefore it is necessary to think about the production of knowledge articulated with this culture, with our history and directed to our potentialities and challenges (Álvaro & Garrido, 2006; Saforcada, 2008).

Thus, the Latin American Community Psychology denomination, or as the Argentine psychologist Enrique Saforcada (2008) from our Indoafroiberoamérica calls it, in addition to marking a geographical region, is to bring to itself an identity and commitment to forms of action/knowledge focused on our themes and issues and our challenges. Therefore, to do/know Latin American Psychology, first of all, is to understand that our region presents great historical social challenges, with structures of exploitation and very marked inequalities, and that Psychology cannot shy away from dealing with such issues. Thus, it is only possible to make Community Psychology focused on themes of social relevance, with methodologies of action/intervention contextualized and carried out with the community, from its potentialities, history, and challenges.

As we already know, the issue of drug consumption, marketing, and trafficking in Latin America is also the result of this historic process. Therefore, an approach to the subject based on Latin American Community Psychology seems fundamental to us, as we will see below.

Community Psychology and Drug Use in Latin America: A Necessary Look

Once a brief contextualization and a very panoramic presentation of the area has been made, we will discuss the importance of thinking and acting on the consumption of alcohol and other drugs from Community Psychology. At another time, we have already discussed the importance of considering the social context in the area (Ronzani, 2018). Therefore, it is up to us to reinforce some main themes. The first is that drugs in society have always been a topic of great interest. The perception of their consumption and commercialization is permeated by social, historical, and economic aspects. Consequently, the interpretation and reaction about certain consumptions, trade, control, harm, or benefits will be crossed by important social determinations. In addition, as we mentioned earlier, we highlight Adams' (2008) statement in his book *Fragmented Intimacy: Addiction in a Social World* that drug consumption is essentially social, since it is primarily in the relationship between one person and another or with their group, within a specific context, that the problem of drug consumption or addiction is understood.

Specifically in Latin America, from the social point of view, considering our reality of producing conditions of extreme social inequality and poverty, the discourse on drugs has an important aspect of maintaining the *status quo* and as a justification for processes of punishment, imprisonment, and exploitation of specific classes and social groups (Mendes, Ronzani, & Paiva, 2019). The most effective ways of control and punishment are based on moral/religious, legal/criminal, and more recently medical/health discourses, including psychologization and psychopathology of drug use. With the emphasis on the liberal ideal of man, increasingly strong in our society, the consumption of some drugs and their resulting problems are automatically linked to the idea of individual failure or incompetence in the face of opportunities for access to certain goods and services, aimed especially at poor populations, more specifically black populations and economically peripheral countries (Ronzani, 2018). As a consequence, we have the production of a social imaginary and structural stigma that legitimizes processes of punishment, violence in various forms, genocide, harassment, and exploitation of specific groups that generate social and psychological suffering (Scambler, 2018).

Therefore, to think about drug consumption from a social perspective is to denaturalize the processes that lie behind the mechanisms of exploitation, violence, and neglect by the State and society in general. Community Psychology, as we have seen, is an area that seeks to commit itself to these processes of change and to question such continuous actions of oppression against the poorest classes, and the issue of drugs, has increasingly been a subject of research/action, and some paths have been proposed for that. The first is to overcome the individualistic conception of consumption and problems related to use, seeking to bring a contextual and dynamic understanding to the issue. The second is the attempt to produce awareness/action of certain groups about their conditions, overcoming fatalism and the incorporation of guilt attributed to people in conditions of exploitation (Oliveira, Ximenes,

Coelho, & Silva, 2008). Finally, it seeks to develop methods of participative action and inserted directly into the community (Sarriera & Saforcada, 2010), in the territory. Finally, it seems to us that the community perspective is fundamental and urgent for us to act in a coherent way to deal with issues related to the consumption of alcohol and other drugs in Latin American countries. We will present below some possibilities of action in the territory.

Groups, Communities, and Territory: Processes Intertwined with Drug Work

Before presenting some practices, it is necessary to differentiate some central concepts such as mass, group, community, and territory, since such terms guide our approaches. In Community Psychology, the focus of actions is mainly community-based, in groups. From there it is essential to differentiate between mass or series and group, since part of our work is linked to collaborate in the construction of the latter. Sartre (2002), in "Critique of Dialectical Reason," already defined that in the series or mass, each person appears as replaceable, as undifferentiated, anonymous, passive; as a "plurality of loneliness," which differentiates it from the group, where there is recognition of each person, interests in common. A *praxis* that gathers them in a different way, through which an active transformation of their reality is sought. As we see, this first difference clearly marks the need to develop and/or empower the group as a device that generates a fertile space for collective processes and psychosocial factors to intertwine, producing knowledge and concrete actions.

However, as this author expresses, one should keep in mind that groups arise from mass or series and can return to it. Therefore, it requires constant action on our part from a double movement: on the one hand, what we do with the group itself; on the other hand, what unveils and ties this "knot" composed of the historical, social, institutional, political, and economic determinations, among others, that cross it and constitute it (Fernández, 1989). This group is influenced, besides being determined and determining by the community of which it is part. Montero (1993) discusses that the psychosocial processes that are configured in the community impact groups and individuals, influencing the behavior of the people who are part of it, and vice versa. Moreover, this is partly due to the feeling of belonging that exists among them. This sense of social identity is an important characteristic for it to be defined, since the members and groups that constitute it build their social history and collective memory through relationships, emotions, needs, and spaces. That is, from the experiences that are shared as a community (Montero, 2004).

Another important characteristic is community action, defined as all the reflections and activities that people carry out in the community in order to transform situations that are considered problematic. For this, it starts with a smaller set of activities, and later broader actions are planned. Through this process, the group becomes a space for reflection and planning par excellence, from which actions are

initiated, developed, and strengthened that will later become collective (Ochoa, Olaizola, Espinosa, & Martínez, 2004).

A sense of social identity and community action take place in a certain context and under certain circumstances, and express the forms of adaptation or resistance that manifest themselves in the group (Heller, Price, Reinharz, Riger, & Wandersman, 1984). So, from what we have presented so far, we can say that:

> A community is a social and historical group, with a pre-existing culture, that has an organization, interests and needs, that develop frequent forms of interrelationship (...) being a group in constant transformation and evolution (its size may vary), and that in its interrelationship is generated a feeling of belonging and social identity, taking its members a consciousness of themselves as a group and strengthening themselves as social unity and potentiality, performing concrete actions on their reality. (Montero, 2004, p. 98)

This reality is framed in a particular territory, understood as a complex plot between social processes and material space that overcomes the social-spatial dichotomy and understands that territory is an inseparable component of these processes and not just a geographical space in which they develop (Dimenstein, Siqueira, Macedo, Leite, & Dantas, 2017). Therefore, it is a heterogeneous force field where the physical substratum becomes a mediating or conditioning element for the multiple global determinations and the particularities of the ways of life, affective relations, sociabilities and bonds, and power relations that are constituted in this space. In other words, each community is unique because it combines several common factors in a particular way, configuring relationships that cannot be equivalent to other places. Thus, through the presentation of these terms, we can plan two central points: the need for clarity and complementarity between them and the importance of their understanding for possible approaches to drug use.

On the first point, we can already explain that part of our work in the area, as mentioned before, will be to develop and/or empower the groups that are part (representative) of this community, because it is from there that the broader interventions/actions take place. In turn, this community is in a territory in which it is inserted and has an impact, producing particular responses. So, one thinks about the group, the community and the territory both from its specificity and in its dialectics so that one can understand the dynamic processes that take place there. Dialectics is that which must be thought from the constant transformation and movement and influenced by different factors (relational, social, economic, cultural, etc.). This characteristic has in common these terms that cross and modify them, that keeps them in a continuous process of being and doing, and that has repercussions on each singular and, among them, in a particular way, producing significant changes that we must take into account for our interventions (Dimenstein et al., 2017; Montero, 2004; Ochoa et al., 2004; Sartre, 2002).

By considering practices from this perspective, we seek to understand the consumption of alcohol and other drugs from the singularity of each group, community, and territory, in order to build contextualized approaches from the perspective of their own actors. Dimenstein et al. (2017) refer to this, pointing out that it is necessary to identify what the history of each place, group, and community is, in order to understand what the rhythms and particularities of the territories are (where they

circulate, how they live, how they develop their daily activities). They also propose a situational analysis of the social and health needs of each particular case. Therefore, it is understood that each process, in our case the consumption of alcohol and other drugs, will have a different configuration for being involved in this complex network. It is from there that we must understand the context and build possible tools together with groups and communities, contextualized to their particular territory.

Working with Groups in the Community

As we have seen so far, Community Psychology makes a different proposal. So your method must also be like that. Even though existing methodologies were initially used, their application was oriented to a specific social context. These methods and techniques come mainly from Social Psychology and other areas of knowledge. For example, the Critical or "militant" Sociology of Fals Borda (1959, 1978) which in the beginning – also inspired by the Psychologist Kurt Lewin (1948/1973) – called action research, but already in 1977, in the World Symposium on Active Research and Scientific Analysis (Cartagena, Colombia), it called participatory action research (Montero, 2004). Some principles of this type of investigation are: a) the method follows the object; therefore, it is understood that it depends on the phenomenon or problem that one wants to approach in order to later define which tool, for what, and when to use it; b) it has a participatory character, since all the participants are part of the discussions, reflections, and actions that are conducted by all (internal agents: people, external agents: professionals or technicians); c) is active and continuous in search of transformation of the needs planned by the community; and d) is contextualized and selected according to the specific reality in which one is working (Montero, 2006).

Another fundamental contribution to the community method is the Popular Education of Paulo Freire. For this author, it is necessary to stimulate and potentialize the search for awareness that allows us to reach a high degree of consciousness, both of the socio-cultural reality that determines our lives, and of the capacity that this consciousness has to transform reality (Pallarès, 2018). It begins with the process of problematization, taking into account the needs and resources felt by the people of the community, seeking to generate a space for a critical understanding of their reality by linking problems and needs with their causes and consequences. This process is carried out both at the community and social levels, always understanding, resignifying, and respecting both academic and popular knowledge (Cerullo & Wiesenfeld, 2001).

Well, how do we put it into practice? How do we organize the work we do with these groups in the community? As Montero (2011) discusses, we should not believe that "what has to be done in the community is this, this and this" as if we were messianic leaders. Instead, we should listen to what the community says and from there build the tools of intervention. In addition, we can think of phases that guide and guide us in our work. We have chosen the term phase, because it makes it possible

to sustain the movement that takes place in and among them. However, we know that in everyday life, such phases are not necessarily linear, and it is important for all the actors involved to recognize their cyclical and contextual character, which generates the need for constant reassessment, as we will present below. Therefore, it is important to emphasize that we present the idea of phase more as a didactic resource, than necessarily a real sequence, in the community.

The bibliography on the implementation phases of community work is not extensive, but has common names: diagnosis, planning of joint actions with the community, execution, and evaluation (Ander-Egg, 2000; Colmenares, 2012; Montero, 2004, 2006; Mori-Sánchez, 2008; Ochoa et al., 2004). Depending on the experiences accumulated in community work, we will briefly present how to think and implement the different phases.

The first would be Familiarization (with greater intensity at the beginning of the process, but must be maintained throughout the intervention) (Montero, 2006), which is carried out in a double sense: from outside to inside and from inside to outside. This action is socio-cognitive between professionals or technicians (external agents) and people from the community (internal agents), where both parties initiate or deepen their knowledge of each other, learn from each other's culture, develop forms of communication among themselves, respecting linguistic peculiarities and begin to develop a shared process. This allows us to "familiarize" ourselves with the reality of the community. In turn, we let them get to know us, an indispensable step to build a "we" that signals us to some possible themes to involve the community and begin to delimit and develop the group we will work with.

This process makes it possible to move on to the next phase, which is Participatory Diagnosis, understood as an opportunity to define what the community's needs are, once the knowledge of the context is deepened and decision-making begins to be exercised (Folgueiras-Bertomeu & Sabariego-Puig, 2018). We emphasize its participatory character because it should reinforce that the diagnosis is made "with" the people of the community and not "about" them. Therefore, the activities that are carried out for this purpose must be thought out and designed according to the group, and from that point on, where one begins to work more deeply on the problematization.

The next phase is the Strategic Planning, which must also be participatory and carried out with the information built up to now. Strategic because it allows it to be organized according to the needs of the community and the possibilities of the people who participate, outlining actions agreed upon in group consensus, where the themes considered most appropriate for the situation identified to the existing problems are chosen (Colmenares, 2012).

It then follows the implementation phase of the action plan, which seeks to build on the transformations or changes deemed relevant. It is at this moment that the awareness deepens even more. It is important to clarify that in this phase we must be able to follow up and question in order to generate moments of reflection on whether we are carrying out the plan or whether it is necessary to make changes that will make it possible to achieve the proposed objectives, or whether we will have to

change what was initially planned because more urgent issues have arisen (Mori-Sánchez, 2008).

The last phase is the Participatory Final Evaluation. As we have already pointed out, in all phases, joint evaluations are constant. At this moment, there must be a process of reflection, systematization, and consolidation of the knowledge learned during the joint work between external and internal agents, in order to make visible to all participants the analyses, actions, and transformations achieved (Colmenares, 2012).

But why would this method be used for work on alcohol and other drug use? The answer lies in the proposal, since from the knowledge of the community, the voice of the actors themselves and how they feel, think, and live the use of alcohol and other drugs, it is possible to understand what happens in the specific context and think of more effective and integrated actions. Thus, the interventions are based on the meanings and experiences of the community itself, generating possibilities of awareness that allows them to question their socio-cultural reality. From such a perspective, it becomes possible to consider as the causes and consequences of situations that the community experiences, denaturalizing some positions and actions. From this perspective, it is possible to produce the recognition of both potentialities and the active role of groups in the construction of other possible forms, according to the concrete reality of existence, whether individual, group or community. Thus, plausible contextualized sustainability interventions are generated, both in processes and in time.

Final Considerations

As we can see, Community Social Psychology presents itself as a useful area for working with people who consume alcohol and other drugs. It is important to break with the idea of the "world of drugs" by pointing out that these people do not live in another world, but are strategically placed in the category of subhuman. In the opposite way, it is necessary to affirm that they are part of our social fabric and that, from a dominant ideology, the separation between "us" and "them" is made (Ronzani, 2018). In this sense, the work in the field, from this referential, calls us to a change of positioning and a commitment of work that takes us from the role of specialist/technician, to be one more point of this complex social network. Therefore, to work from there is to actively place oneself and question oneself all the time about what our knowledge is for.

For this reason, we maintain that, far beyond an area of applied knowledge, important for work, especially in the Latin American context, Community Social Psychology is an invitation to become aware of our position in the world and of what we do concretely from it, regardless of our professional training, theoretical reference, or workplace. We know that Community Psychology does not pretend to be a totalitarian theory/practice with answers and solutions to all questions, much less in the field of drugs. However, what we propose is to always move toward the

utopian horizon of Galeano (1993), to take another step forward, toward a more just world. And this is the invitation we extend to all readers.

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Chapter 14
The Transtheoretical Model of Behavior Change: Prochaska and DiClemente's Model

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Introduction

Prochaska and DiClemente's (1982) Transtheoretical Model of Behavioral Change (TTM) is widely known and focuses on understanding how individuals can make a behavior change. In the 1970s, these authors understood that no theory could explain the process of behavior change. A proposal for an integrative approach was then created, based on the search for common foundations for change in different psychotherapeutic approaches and in the learning perspective (DiClemente, 2017).

It is a model called "transtheoretical" precisely because it is composed of characteristics of several theories (Prochaska, DiClemente, & Norcross, 1992). Moreover, it is recognized as it can help changing different health behaviors (Prochaska et al., 1994; Ünver, 2019), such as changes related to physical exercise, eating behavior, medication adherence, risky sexual behavior, and especially in cases of use or abuse of different psychoactive substances. It is important to note that TTM can be used to initiate a new behavior, change behavior patterns or stop a problematic behavior (DiClemente, 2017).

A systematic review investigated the applicability of TTM in the health area, focusing on changing the behavior of people with chronic diseases. The study analyzed 57 articles in which the main objectives were related to the evaluation of TTM constructs in different health contexts, the change of chronic patients, and the evaluation of the advantages and disadvantages of the model. The results demonstrated high efficacy to change numerous behaviors. It was noted that the number of studies that used TTM for people with chronic diseases is still small, but a few studies conducted have been had quite positive results (Hashemzadeh, Rahimi, Zare-Farashbandi, Alavi-Naeini, & Daei, 2019).

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According to Prochaska, Norcross, and Saul (2019), TTM presents important strategies that have been producing advances in health psychology and mental health in recent years. The authors state that TTM can increase the impacts of treatment in populations with certain problems: to favor the brief treatment of chronic problems behaviors, with consequent premature deaths; to enable concomitant change of more than one behavior; to offer tools for action in different health fields; and to enable new focus research for constant innovations in the health area.

There is evidence of effective use of TTM in international studies, both in individual interventions (Sharifirad, Eslami, Charkazi, Mostafavi, & Shahnazi, 2012) and group interventions (Carlson, Taenzer, Koopmans, & Casebeer, 2003). In Brazil, a study aimed to perform an intervention adaptation of the book *Group Treatment for Substance Abuse: A Stages-of-Change Therapy Manual* (Velasquez et al., 2001), which had a treatment protocol for drug users. The adapted intervention in Brazil consisted of eight sessions and was applied to cocaine/crack users. From the results of a pilot study, it was possible to verify good results of the intervention in the experimental group (TTM sessions) compared to the Control Group (psychoeducation sessions) (Szupszynski, 2012). A randomized clinical trial with cocaine/crack users evaluated the effectiveness of a TTM-based group intervention. The program had effective results in terms of readiness for behavior change and maintenance of abstinence in the first 15 days after treatment (Rodrigues, 2013).

Thus, it can be stated that the Transtheoretical Model of Behavioral Change has evidence of effectiveness in both substance abuse and other health problems. In the TTM adaptation in health treatments, it is essential to know the concepts that structure this model. It can be said that there are two key constructs in the model: Stages of Change (temporal dimension of the model) and Mechanisms of Change (internal and external variables that influence the behavioral change).

Stages of Change

The Stages of Change are understood as the temporal dimension of TTM, with different levels of motivation in the process of change. The Stages of Change are divided into Precontemplation, Contemplation, Preparation, Action, and Maintenance (DiClemente, 2003). Each stage is made up of a set of tasks that assist in advancing from one stage to another and to modify the current behavior pattern (DiClemente, 2017). The movement between these levels of motivation occurs through the idea of a spiral, because it is possible to move from one stage to the next without a linearity idea (DiClemente, 2003). That is, the stages do not follow an idea of linearity, but of a flexible and volatile change that depends on numerous factors. That is why the authors adopted the idea of spiral, because the person can move freely between stages, without a fixed or rigid sequence.

In the Precontemplation stage, the person may have little or no awareness of a problem and no intention to change (DiClemente, 2003). According to the approach used by the professional, the resistance may increase and thus reduce the chances of

a patient to continue the treatment. For example, emphasizing the consequences of a behavior of which one is not yet willing to change, it may be risky at this stage. That is, if the patient does not identify any need for change, it is not effective for the professional to flood the patient with information. Before that, it is necessary to circumvent the barriers of resistance to change. Thus, the use of questions such as "Is it okay if I talk to you about your smoking?" or "Was your drinking a problem for you or anyone else in your life?" can make it easier to talk to the patient. The goals of the Precontemplation stage include raising patient awareness of your problem and stimulating the continued change of the target behavior (Searight, 2018). To leave the Precontemplation stage, the person must develop an interest or concern for change (DiClemente, 2017).

A systematic review and meta-analysis by Rios, Herval, Ferreira, and Freire (2019) was performed on evidence regarding the prevalence of Stages of Change for smoking cessation in adolescents. Through the analysis of 11 studies, which totaled a sample of 6469 adolescents, the results indicated that precontemplator participants accounted for 41% of smokers in the early Stages of Change. This means that 41% of the sample did not evaluate their tobacco use as a problem. In addition, this group was found to be less self-efficacy and more addicted to nicotine.

In the Contemplation stage, the person begins to think about making a change and about to modify a behavior that he or she evaluates as problematic (DiClemente, 2003). Therefore, the health professional should be concerned with helping the patient solve the ambivalence for behavior change. At the Contemplation stage, it is possible to use some questions such as "What do you see as the pros and cons of continuing smoking?" or "What do you think would be more difficult when reducing your alcohol consumption?" (Searight, 2018). To progress in the process of change, an analysis is needed of the costs and benefits of making, or not making, a change. Thus, the therapist's main objective with contemplation patients is to decrease ambivalence (doubt) about the possible execution of an action plan toward a new behavior.

In the Preparation stage, the decision-making process takes place. In this stage, the professional should encourage the commitment to change and the collaboration for the plan development (DiClemente, 2003). Questions such as "What would be the best day next month for you to quit smoking?" and "How can I help you succeed in quitting smoking?" can facilitate the preparation for a real change and consequently put a plan into practice (Searight, 2018).

In the Action stage, the patient changes effectively begin to occur (DiClemente, 2003). It is very important to reinforce each success or achievement, so that an increase in self-efficacy can occur, which will be essential in the face of the challenges that can arise in behavior change. For this, statements or questions can be used such as "You have succeeded in reducing alcohol consumption" or "What were the main challenges to keep away from smoking?" In the Action stage, the patient must be convinced of the change purpose, and he needs to have evaluated and minimized the disadvantages of the change (Searight, 2018).

The last stage, and one of the most challenging, is the Maintenance stage. At this stage, the person shows himself committed to sustaining behavior change

(DiClemente, 2003). The patient's success must be reinforced by the therapist, and it is essential to assist in the understanding of the possible lapses and relapses. Depending on the behavior that is being modified, lapses and relapses may be common, and their occurrence cannot be interpreted as a failure or a reinforcement for unadaptative personal ideas. Some statements or questions such as "Some lapses are normal when you change an old habit" or "After smoking these 10 cigarettes, how did you regain control?" may clarify to the patient that the process is not simple and that some challenges may arise. The goal is to show a lapse or relapse does not mean a failure in the change process, and that it is only important to have an evaluation of the strategies that did not work for a specific situation, and then the process is resumed (Searight, 2018).

According to a meta-analysis of TTM, which aimed to review the Stages of Change and readiness for change as measures of psychotherapy outcome, moderate effects were found for different mental disorders. It was possible to conclude that patients who initiate psychotherapy in the Preparation and Action stages (or who are more ready for a change) achieve better results compared to those who begin in the Precontemplation or Contemplation stages. This indicates that when the patient is more motivated at the beginning of treatment, the effects of psychotherapy are better (Krebs, Norcross, Nicholson, & Prochaska, 2018).

A survey aimed to identify the stages of motivation for change in 200 alcohol and crack users, hospitalized for treatment in hospitals and recovery farms. The results showed that most of the participants (n = 130) were in the Contemplation stage. In addition, the participants were also compared regarding the place where they were being treated. The result showed that the patients from the recovery farms had higher scores in more motivational stages (Sousa, Ribeiro, Melo, Maciel, & Oliveira, 2013). This kind of evaluation is essential to the treatments offered, can deal with issues such as ambivalence or resistance, and can obtain more effective results.

Tobacco is one of the most frequently studied substances in TTM. A cross-sectional study by Tran et al. (2015), with 1016 participants, evaluated the motivation stage for change in smokers. The results showed that most of the study participants were in the Precontemplation stage and that there was a high rate of withdrawal from treatment and difficulty in maintaining abstinence. Thus, it can be inferred that if the professionals had considered all the characteristics that involve this stage, they could have been taken preventive measures in relation to the intervention, and consequently to change the results obtained.

In the study by Daoud et al. (2015), which aimed to evaluate motivational stages of 735 male smokers, some factors were identified that contributed to a longer stay in the Contemplation or Preparation stages, to the detriment of the Precontemplation stage. The factors that favored stages more related to change were social support, knowledge about smoking risks, positive attitudes toward smoking prevention, and medical counseling to quit smoking. Thus, the results demonstrated the importance of these variables in the treatment of smokers.

In a six-session, TTM-based intervention for 200 students in one school, statistically significant progress has been made in the Stages of Change, as well as smok-

ing cessation. It was possible to state that as the scores in the stages and in the self-efficacy increased (Erol, Balci, & Sisman, 2018).

In view of these, it is possible to realize how relevant it is to know the patients' motivation levels when they start treatment. Consequently, how to stimulate change strategies for someone who does not identify a problem in their life? In addition, it is essential to understand that the levels of motivation are directly related to other concepts, such as self-efficacy. The belief in the ability to change can become as a predictor for permanent change.

Mechanisms of Change

The understanding of the Stages of Change is already well described in national and international literature. However, the Transtheoretical Model also includes the concept of "Mechanisms of Change." As mentioned, the Stages of Change are a way to measure the level of motivation of the patient. But, then, what is needed to move between the stages? What is necessary to change the motivation to change a certain behavior?

The TTM constructs, called Mechanisms of Change, are understood as gears that assist in the movement of the person between the Stages of Change and are the self-efficacy for abstinence, the temptation to return to drug use, the construction of the decision-making balance (pros and cons), the processes of change and the external factors. This chapter will focus on the explanation of three of them: self-efficacy, temptation, and processes of change.

Self-efficacy, a concept initially proposed by Bandura (2006), can be understood as how the person believes in the capacity to perform a specific behavior or achieve an outcome. Self-efficacy is considered to be a predictor of change throughout the process. The higher level of self-efficacy, the greater the probability of success in the process of change.

Self-efficacy is also a concept that is part of Marlatt and Gordon's (1993) "Relapse Prevention" theory, because it is one of the intrapersonal relapse determinants. When a person uses coping strategies in a certain risk situation, the level of self-efficacy is probably high, favoring the awareness of a larger strategies repertoire (Witkiewitz, Marlatt, & Walker, 2005). The greater self-efficacy level favors the better performance in behavior change, which is relevant to the evaluation during the whole change process (DiClemente, 2003). Thus, abstinence self-efficacy is related to the individual confidence to remain without substance use (DiClemente, Fairhurst, & Piotrowski, 1995).

The "Temptation" is understood as the will to return to a previous behavior and, like self-efficacy, is a marker of the process of change (DiClemente, 2003) and, therefore, a determinant of relapse (Connors, Velasquez, DiClemente, & Donovan, 2013). Three factors are related to tempting situations: negative affection or distress, positive social situations and desire to return to previous behavior (Prochaska & DiClemente, 1982). According to TTM, the more desire an individual has for sub-

stance use, the less self-efficacy for abstinence. That is, there is a negative correlation between temptation and self-efficacy: the greater the self-efficacy, the lower the temptation. The temptation tends to be higher in the initial Stages of Change, and the self-efficacy is expected to be higher in the final stages, such as the Action and Maintenance stages. In the Maintenance stage, for example, the temptation needs to be lower than the self-efficacy for the individual to sustain the change (DiClemente, 2003).

One study verified whether self-efficacy was related to abstinence, after treatment for alcohol use, with 1328 participants. According to the results, self-efficacy was related to the low frequency of drinking in 6 and 12 months after treatment and the decrease in consumption after 6 months (Crouch, DiClemente, & Pitts, 2015). The results of the study reinforce the premise that assessing and stimulating self-efficacy can bring very positive results at the treatment with substance users, increasing the chances for maintaining abstinence.

Another study, with a prospective design, aimed to investigate the relationship between temptation, self-efficacy and the Stages of Change. The sample consisted of 454 male smokers. The results indicated that the scores of temptation to tobacco use decreased in more motivational stages (Luh et al., 2015).

Change Processes

Prochaska and DiClemente (1982) have conducted numerous studies about the process of change in smokers. The authors stated that certain basic processes would be responsible for changes in people undergoing treatment and in those who change without therapeutic assistance. Processes of Change are considered the "engines" that promote movement from one to another stage of change and are extremely important to plane behavioral change interventions (DiClemente, 2003; Velasquez, Maurer, Crouch, & DiClemente, 2001).

Prochaska and DiClemente (Prochaska & DiClemente, 1982; Prochaska, Velicer, DiClemente, & Fava, 1988) state that there are 10 processes of change: (1) Consciousness Raising, (2) Dramatic Relief, (3) Environmental Reevaluation, (4) Social Liberation, (5) Self-reevaluation, (6) Self-liberation, (7) Counterconditioning, (8) Stimulus Control, (9) Reinforcement Management, and (10) Helping Relationships. The first five processes involve cognitive restructuring and are called "Cognitive Processes" (or experiential). The other five processes are related to observable behaviors and are called "Behavioral Processes."

Cognitive (or experiential) Processes are defined as follows:

1. Consciousness Raising involves raising awareness about the causes and consequences of problem behavior. Feedbacks, psychoeducation and bibliotherapy can help increase awareness and promote readiness for change (Velasquez et al., 2001; Velicer, Prochaska, Fava, Norman, & Redding, 1998).
2. Dramatic Relief initially involves an increase in emotional experiences related to the problem. It is important to raise emotional awareness in patients, making

them to truly reflect on the target behavior. Activities that can promote this emotional relief are psychodrama, role-playing, expression of grief and personal testimonies (Velasquez et al., 2001; Velicer et al., 1998).

3. The Environmental Reevaluation combines an affective and cognitive evaluation of the person. It is the recognition of how a behavior can generate conflicts with personal values or life goals. In addition, it is relevant that the person evaluates how a behavior may be affecting their social coexistence. Empathy training and family interventions can lead to such assessments (Velasquez et al., 2001; Velicer et al., 1998).
4. The Social Liberation proposes that the patient makes a reassessment of the environments that attends and, from this, the patient can choose for healthier environments, in which it is more natural to change and, subsequent, maintain the change. Participation in social projects, for example, can produce an increase in opportunities for commitment to change at the social level (Velasquez et al., 2001; Velicer et al., 1998).
5. Self-reevaluation would be the last Cognitive Process and combines two evaluations: cognitive and affective. It consists of an evaluation of self-image, the rescue of the values and the obtaining healthier behaviors. In this process, it is important that the patient recognizes the damage that may be causing to himself and to people close to him (Velasquez et al., 2001; Velicer et al., 1998).

The Behavioral Processes are defined as follows:

1. Self-liberation is the combination of the belief that the change is possible and the commitment to put that belief into practice. Research on motivation shows that people who have two or more options for solving a problem are more successful at change. In front of them, the patient must choose the better option and commit to execute it (Velasquez et al., 2001; Velicer et al., 1998).
2. Counterconditioning requires to learn new healthy behaviors that can replace problem behaviors. The conditioning will be present mainly in situations that are difficult to avoid and to generate some temptation. Therefore, the patient should create strategies that keep you away from the problem behavior. Examples of the counterconditioning include nicotine replacement to replace cigarettes or the identification of new strategies to relax after a difficult day (Velasquez et al., 2001; Velicer et al., 1998).
3. Stimulus Control aims to remove the stimulus that indicates unhealthy habits by adding healthier alternatives. Avoiding old behaviors, reviewing environmental and mutual aid groups can help maintain change and reduce the risk of relapse (Velasquez et al., 2001; Velicer et al., 1998).
4. In Reinforcement Management, the person foresees the consequences of the choices they have made. Although Reinforcement Management may include the use of punishments, it has been observed that people who make changes are more reinforcements than punished. Thus, reinforcements are emphasized, since the philosophy of the model is to stimulate change in a harmonic and natural way. Covert or ostensible reinforcements, positive self-assertion and recognition of a peer group are examples of reinforcements that increase the likelihood that healthier responses will be made again (Velasquez et al., 2001; Velicer et al., 1998).

5. The Helping Relationships aims to combine affection, trust, acceptance and support for the change to healthy habits. A strengthened therapeutic alliance and a solid network of friends can be important sources of social support for successful change (Velasquez et al., 2001; Velicer et al., 1998).

Like the other variables of the Mechanisms of Change, the Processes of Change also has a "close relationship" with the Stages of Change. For Prochaska et al. (1988), the person who uses more cognitive processes would be presenting a lower motivation and to be located in the earlier Stages of Change such as Precontemplation, Contemplation, or Preparation. On the other hand, people who use more Behavioral Processes are probably more motivated, among the Action or Maintenance stages.

A study from Turkey aimed to verify the effect of a TTM-based smoking cessation intervention on 77 women, 38 from the control group and 39 from the intervention group (with TTM). TTM-related evaluation scales were used at the beginning and after 2 and 6 months of follow-up. The results showed that at 6-month follow-up, the intervention group (with TTM) had a higher smoking cessation rate, with significant differences in almost all TTM variables (Koyun & Eroglu, 2016).

A randomized clinical trial compared a TTM-based treatment group associated with nicotine replacement ($n = 50$ smokers) with a control group ($n = 60$ smokers) in which participants received only recommendations to stop tobacco use. All participants were evaluated at the beginning of the process and after 3 and 6 months. The results showed that continued abstinence after 6 months was higher in the treatment group, showing significant differences when compared to the control group. In addition, most TTM constructs achieved significant changes, such as temptation and experiential processes, which decreased over time, and behavioral processes that increased, as expected by TTM (Sharifirad et al., 2012). Therefore, the study can prove the effectiveness of a treatment based on the Transtheoretical Model of Behavioral Change for smokers.

By explaining the main concepts that make up TTM and the studies found in the literature, it is possible to demonstrate the internal validity of the model and its satisfactory use in understanding the change in substance users. For the application of TTM-based treatment to be satisfactory, it is important to know the patient and how motivated the person is to change.

Transtheoretical Model of Behavioral Change: Assessment Instruments

Several aspects related to the use of substances need to be investigated and evaluated in substance users (Bedendo et al., 2019; De Micheli et al., 2016). For the evaluation of TTM constructs, there are also instruments, with validation in Brazil, that can help understand the moment of the patient and how he or understands his behavior. The best-known TTM scale, the University of Rhode Island Change Assessment (URICA), was developed by McConnaughy, DiClemente, Prochaska,

and Velicer (1989) to assess the Stages of Change. It is a self-reported scale that can be filled by the patient. URICA for illicit drugs was adapted and validated in Brazil by Szupszynski and Oliveira (2008) in a study of 214 users of illicit psychoactive substances. The scale has 24 items (with four sub-scales) and showed a satisfactory internal consistency of $\alpha = 0.657$.

There is also the URICA version for tobacco, adapted and validated by Oliveira, Ludwig, Moraes, Rodrigues, and Fernandes (2014). It is also composed of 24 items in four sub-scales: precontemplation, contemplation, action and maintenance. The results indicated the satisfactory validity of the scale. Another study that also used URICA was that of Oliveira, DiClemente, and Szupszynski (2010), with adolescent offenders using illicit drugs. The objective was to identify the relationship of the motivational stage with treatment adherence. The results showed a higher frequency of participants in the Precontemplation stage, which also had high scores of resistance to treatment. Thus, the study may reaffirm the relationship between earlier motivational stages with low treatment adherence.

The Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), as well as URICA, also assesses the motivation. It has 19 items divided among the factors: ambivalence, recognition and action. An outpatient study of alcohol dependents was performed, and the results indicated good internal consistency and reliability (Figlie, Dunn, & Laranjeira, 2004). In another article, motivational stages was evaluated by SOCRATES in 100 heroin-dependent adults who were under treatment. Adequate internal consistency was obtained and the authors concluded that it was possible to obtain the external validity of the instrument (Janeiro, Faísca, & Miguel, 2016).

The Processes of Change Questionnaire (PCQ) aims to evaluate another TTM construct: the processes of change (cognitive and behavioral processes). It is a five likert items with 20 questions. It was adapted and validated in Brazil by Szupszynski (2012) who obtained a satisfactory Cronbach alpha coefficient of $\alpha = 0.732$. On the scale, the person responds to the frequency at which thoughts or behaviors related to substance use occur. Another study by Szupszynski (2012) that used PCQ in 395 crack users, under treatment, concluded that cognitive and behavioral processes are associated with variables such as age, motivational stage, and abstinence time. In a third study, PCQ was used to evaluate the processes of change after a motivational intervention. The results indicated that the participants, at the end of treatment, used more behavioral processes (Ávila, Yates, Silva, Rodrigues, & Oliveira, 2016).

There are also scales that evaluate other Mechanisms of Change such as self-efficacy for abstinence and temptation for drug use. These are the Drug Abstinence Self-efficacy Scale (DASE) and Temptation to Use Drug Scale (TUD) developed by DiClemente, Carbonari, Montgomery, and Hughes (1994). They are Likert self-applicable instruments, with 24 items and are divided into four factors: Negative emotions, Social/Positive, Worries, and Abstinence/Impulsiveness. They are usually applied together, because in the DASE, the patient responds how confident he feels to resist the drug use and, in the TUD, how tempted he feels to use drugs.

In Brazil, DASE and TUD were adapted by Freire, Silva, Ávila, and DiClemente (2017) in a sample of 300 participants in treatment for cocaine and crack addiction. The results indicated adequate evidence of validity, with Cronbach's alpha in DASE

of $\alpha = 0.920$ and TUD of $\alpha = 0.927$. Ávila et al. (2016) also used DASE and TUD to evaluate cocaine/crack addiction before and after a TTM intervention. According to the results, after the intervention, the self-efficacy for abstinence of participants increased and the temptation to use substances decreased, confirming the theoretical assumptions of TTM.

Concluding Remarks

After all, it can be understood that the Transtheoretical Model of Behavioral Change stands out as an intervention proposal that proves effective for the changing of different behaviors, such as the use of licit and illicit psychoactive substances. Motivational interventions can be very effective for difficult patients and thus help to adhere to treatment and obtain more promising results. TTM has already been adapted for treatment in individual and group psychotherapy formats, with international studies. In Brazil, TTM demonstrated positive results to decrease drug use or to maintain total abstinence. Moreover, there are numerous evaluation scales adopted in Brazil, which favors the use of the model in the national context and promotes a more accurate description of the patient's perception regarding motivation for change. An adequate evaluation will allow the professional to apply a more personalized TTM-based treatment, respecting the individuality of the patient.

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Chapter 15
Evidence-Based Practice in Psychotherapy for Substance Use Disorders

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Introduction

The evidence-based practice is based on the premise that the conduct of the health professional must be based on data from scientific research; that is, it refers to the use of empirical data supporting any procedure targeting patient care. However, for a long time the practice in the healthcare area, even in medicine, was based on intuition, knowledge coming from books, and non-systematized professional experiences (Melnik & Atallah, 2011). It was only in the 1990s that the evidence-based practice movement started in medicine (Leonardi, 2017; Lilienfeld, Ritschel, Lynn, Cautin, & Latzman, 2013).

Currently, there is a worldwide demand for evidence-based practices in various healthcare expertise areas (Melnik, Souza, & Carvalho, 2014). In the area of psychology, the presence of practice with this nomenclature began in 2005, when the American Psychological Association (APA) gathered a group of scientists and clinical psychologists and created the Task Force on the Evidence-Based Practice in Psychology (EBPP) (Melnik & Atallah, 2011).

The EBPP can be considered as an approach to clinical decision-making that integrates the best available research evidence, clinical expertise, and patient preferences and characteristics to support the line of care that will be adopted in a given case (Leonardi, 2017; Melnik et al., 2014; Melnik & Atallah, 2011). Thus, the aim of APA is that psychologists, at all stages of clinical management, take into account

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their technical skills, empirical evidence, the characteristics and preferences of the client, and also the context in which the care will be provided, enabling the access to the best possible intervention.

The importance of EBPP is not restricted to the treatment of psychopathologies. Issues related to case evaluation and formulation, therapeutic relationship, psychodiagnosis, mental health prevention, and relapse prevention are also research topics and are areas of interest to EBPP, contributing to effective mental and public health through empirically based principles (Melnik et al., 2014). Such principles apply to various fields of psychology, such as clinical, hospital, health, institutional, among others (Melnik & Atallah, 2011). Ignoring the evidence derived from quality research may result in harm to individuals and the population or lead to unnecessary waste of resources (Atallah & Puga, 2011).

However, EBPP requires the psychology professional to be updated, since he or she needs to be informed constantly about the results of mental health research. Systematic reviews (SR) and meta-analyses stand out in this context as a valuable tool, as they are a research method that condenses into a secondary study a series of primary studies on a given subject. Thus, clinicians can use SR and meta-analysis to keep themselves informed in certain areas of mental health (Atallah & Puga, 2011; Melnik & Atallah, 2011; Riera, 2011).

Systematic reviews and meta-analyses in psychology can be found in the Cochrane Library. This is a worldwide research network who form a non-governmental non-profit organization, with more than 50 groups that produce, maintain, and disseminate research in SR. Thus, therapeutic and preventive decisions for mental health care can be made using the best available source of scientific evidence, according to the topic of interest (Atallah & Puga, 2011).

In addition, Division 12 of the APA has created a committee and a website where the main effective treatments for certain psychiatric and psychological disorders are described. The site provides basic descriptions of the diagnosis and treatment targeting a broad audience, consisting of professionals working in the field, students, researchers, and lay audience (http://www.psychologicaltreatments.org).

There are several levels of quality of evidence that underpin evidence-based practice. SR and meta-analysis are considered the Level I evidence, in terms of reliability and precision to support therapeutic conducts. When a SR is not yet available on a given topic, lower levels of evidence quality should be used (Atallah & Puga, 2011; Melnik et al., 2014; Riera, 2011).

Level II evidence is the large randomized clinical trial, conducted with more than a thousand clients, and with a blinded outcome evaluator. The next level of evidence, Level III, should be the one that underlies the practice when there is not yet a large clinical trial. This is the medium or small randomized clinical trial, with statistically significant clinical results, conducted with less than a thousand patients. Below this level of evidence is the prospective cohort study (level IV), in which there is no randomization. One group receives treatment A and the other treatment B, and the results of the two groups are compared (Melnik et al., 2014).

Level V evidence aims to support professional practice when even Level IV is not yet available. In this case, information is based on case studies and controls. An

even lower level of evidence (VI) is the case series. Finally, the lowest level of evidence to support the practice of health professionals is the case report (VII). When no evidence is available (levels I to VII), expert opinion or consensus among experts should be adopted (Melnik et al., 2014; Melnik & Atallah, 2011).

Here it is necessary to highlight something that has already been highlighted before: EBPP relies on three elements. In addition to the evidence coming from research, the professional must consider his clinical expertise and the characteristics and preferences of the client (and context) to support his practice. The relevance of the second element, clinical expertise, is because the psychology daily practice involves clinical judgments, assessing costs and benefits, and making decisions that will require the incorporation of experience to the practice, since the research data cannot dictate every step taken by the professional in a care session with his client (Lilienfeld et al., 2013).

Furthermore, in addition to the updating research that shows the effectiveness of evaluation protocols, treatment, prevention, and clinical expertise, the psychologist should consider the compliance of the patient to the intervention. Clinical decision-making should be carried out in collaboration with the patient (Lilienfeld et al., 2013; Melnik et al., 2014). The intervention that has proven to be effective and efficient, with internal and external validity, must also work in the real-world conditions of the client.

Some authors, such as Thyer and Pignotti (2011), for example, argue that EBPP should give equal importance to these three elements in clinical decision-making. Other authors, however, believe that scientific data are the primary element of EBPP, as Lilienfeld et al. (2013). These authors argue that not prioritizing empirical data is a problem, as many psychologists continue to place greater weight on their intuition than on evidence-based research when making decisions about the care of their clients.

In a study on the attitudes of clinical psychologists toward EBPP, Lilienfeld et al. (2013) drew attention to the fact that the resistance of these professionals to EBPP is still high, making an investigation about the main reasons for this. Some of the reasons cited were the fact that many professionals graduated in a pre-EBPP era; and the statistical complexity of several studies about the effectiveness of the interventions, making it difficult to understand these studies.

In order to reduce the opposition of psychology professionals to EBPP, Melnik et al. (2014) stressed the need to invest in the knowledge of psychology and mental health students in order to avoid the spread of misconceptions about the nature of EBPP, favoring the interaction and knowledge exchange between research-oriented psychologists and clinical practice-oriented psychologists. The authors also talk about the important role of professional organizations in disseminating knowledge about EBPP and in spreading the latest information about the best practices available, through materials that are simple and didactic, with guidelines for clinical practice.

In the Brazilian context, some ventures have been undertaken in this direction. The first work to contribute to the dissemination of EBPP began in 2011 and needs to be highlighted. It is the book by Tamara Melnik and Álvaro Nagib Atallah,

entitled “Evidence-Based Psychology: Scientific Evidence on the Effectiveness of Psychotherapy,” which covers current evidence on the treatment effectiveness of various psychiatric disorders.

Other initiatives undertaken in the Brazilian context deserve to be mentioned. The first course in Brazil on EBPP took place at the University of São Paulo by Tamara Melnik and Sonia Beatriz Meyer, in 2013. The first Symposium on EBPP articulation between practice and research occurred at the University of São Paulo, organized by Tamara Melnik, Maria Imaculada Sampaio, and Gabriela Silva (Melnik et al., 2014).

Evidence-Based Psychotherapy and the Treatment of Substance-Related Disorder

The search for empirical demonstration of the effect of psychotherapy began after the publication of Eysenck (1952) stating that *no modality of psychotherapeutic intervention was more effective than the mere passage of time* (Leonardi & Meyer, 2015, p. 1141). In this study, the author conducted a survey of reports on the improvement of neurotic patients with and without the use of psychotherapy; and the comparative results, according to him, did not support the hypothesis that psychotherapy was the factor that facilitated recovery (Eysenck, 1952). This questioning of the efficacy of psychotherapy in the context of mental health encouraged clinical research, especially randomized clinical trials, focusing on the evaluation of the results of interventions.

On this topic, several studies have been conducted and published mainly from 1975 onward. The results, unlike the findings of Eysenck (1952), pointed to the beneficial effects of the practice of psychotherapy, regardless of the approach used. In his thesis, the improvement would be due to the so-called common factors, which include the characteristics of the therapist (such as empathic listening) and of the patient (such as motivation for treatment) and the therapeutic relationship, present in all approaches (Cuijpers, Reijnders, & Huibers, 2019; DeRubeis, Brotman, & Gibbons, 2005; Leonardi & Meyer, 2015). On the other hand, some researchers proposed that the evolution of the patient during treatment was due to the theories and techniques characteristic of each approach, and then conducted research to prove their antithesis named “specific factors” (Leonardi & Meyer, 2015). After years of criticism and studies confirming both the common factors thesis and the specific factors antithesis, a synthesis of both arguments began to be discussed in 2000, indicating that certain approaches are more effective than others for specific clinical problems (DeRubeis et al., 2005; Leonardi & Meyer, 2015). Thus, in 2005, APA validated the three elements that make up EBPP aforementioned: clinical expertise, research evidence, and client characteristics, which include both common and specific factors.

Considering substance use disorder (SUD) as a specific clinical problem, several studies on the implementation of evidence-based interventions have been conducted, ranging from brief interventions to psychosocial and behavioral treatments with medium and long-term follow-ups (Ducharme, Chandler, & Harris, 2016; Finney & Hagedorn, 2011; Garner, 2009; Louie, Barrett, Baillie, Haber, & Morley, 2020). As already mentioned, the review studies, mainly the systematic reviews, are considered as quality evidences that support the EBPP, being, therefore, the base for discussing the topic of this chapter. In general, there is consensus that evidence-based psychotherapy interventions for SUD include cognitive-behavioral therapy with relapse prevention, behavior therapy for couples, contingency management, and motivational interview (Manuel, Hagedorn, & Finney, 2011; Pechansky & Baldisserotto, 2014). Counseling and 12-step therapy, although not considered by all authors to be an EBPP, are widely used by SUD experts, as well as brief intervention (Manuel et al., 2011), for which efficacy and effectiveness studies are still recommended.

A systematic review of North American studies on the diffusion of evidence-based psychotherapy for substance abuse treatment identified 65 studies and classified them into three categories: (a) attitudes regarding evidence-based psychotherapy, including studies on beliefs or attitudes about the effectiveness or use of such practices; (b) adoption of evidence-based psychotherapy, including studies that examined the extent to which professionals reported adopting specific practices; and (c) implementation of evidence-based psychotherapy, including studies that evaluated the implementation of such practices. Results for psychotherapy indicated that 93% of respondents indicated that cognitive-behavioral therapy with relapse prevention should be recommended and that clinical therapists were more motivated to adopt 12-step therapy, cognitive-behavioral therapy, motivational interviewing, and relapse prevention than contingency management, behavior therapy for couples, or pharmacotherapy (more details can be found in the Garner review of 2009). In addition, 100% of clinicians stated that treatment manuals provide structure and consistency to therapeutic work, but 42% also indicated that the manuals could hinder the ability to respond to the individual patient needs.

Regarding the brief intervention for alcohol abuse, several studies already pointed out positive results. A review study that evaluated eight different programs conducted in several countries that implemented screening and brief intervention in primary care found both types of intervention to be effective in reducing harmful alcohol use (Williams et al., 2011). In the same direction, in the systematic review of Jonas et al. (2012), after analyzing results from several randomized clinical trials, the authors recommended that general practitioners should conduct adult screening on alcohol consumption and provide behavioral counseling to those who are positive for harmful use. On the other hand, when it comes to the chronic use of other drugs, in which relapse is frequent, there is a consensus that more extensive and multimodal treatments and even hospitalizations should be used approaches. In these cases, group therapies (including self-help) are indicated associated with individual, family, and/or couple therapies, as well as the use of pharmacological

treatment when necessary, all with a focus on constant monitoring (Finney & Hagedorn, 2011).

Regarding factors associated with higher treatment success rates for SUD, a review of 21 studies that applied psychosocial or behavioral interventions identified some strong points that deserve highlighting. The first was the implementation of some type of didactic training for therapists, which, according to the authors, should occur in continuously and not occasionally, as a supervision or discussion space with other specialists. The second was the use of motivational approaches, such as motivational interview and contingency management, revealing that besides the expertise of the therapist, the motivation of the client is a fundamental aspect. The third point is that the intervention is based mainly on several indicators of success, such as promotion of support and motivation, with structure and goals defined and adapted to the patient context than on specific approaches. Such factors increase the chances of the patient engaging in new pleasant and rewarding activities and promote the development of coping skills and a sense of self-efficacy (Manuel et al., 2011). The strengths highlighted are in line with the EBPP tripod previously described in this work.

Analyzing the characteristics of these interventions performed in the United States and those recommended by the EBPP, Finney and Hagedorn (2011) warned that especially regarding SUD, besides the characteristics of the professional and patient, and the evidence of research, the context (hospital, clinic, outpatient, therapeutic community) in which the intervention is implemented should be considered. In addition, they emphasized that the greatest challenge is to adapt the treatment according to the particularities of the patient, given the diversity of patterns and environments of consumption. In the same way, considering the high relapse rates, Ducharme et al. (2016) indicated the evaluation of the sustainability of the intervention, with special attention on whether they meet the demands and restrictions of local settings, such as social vulnerability.

In Brazil, the problematic use of drugs is a public health issue, with a serious impact in terms of social and economic costs. Given the national context, developing public policies based on the evidence of efficiency, effectiveness, and efficacy for the prevention and treatment of psychoactive substance use becomes a major challenge. Concerned with this scenario, Pedroso, Juhásová, and Hamann (2019) conducted a literature review with the objective of analyzing the challenges of adaptation in the dissemination of prevention practices regarding the consumption of alcohol and other drugs evidence-based in Brazil. As results of this review, the authors warned that such practices should be based on scientific evidence and not on ideological, media, or political opinions; should be articulated with all areas of health promotion (prevention and care), as well as with the social reinsertion of the user; and should transpose and adapt the techniques/programs to language, culture, and values, including the vulnerabilities of the "real world." Other recommendations found in this study were the following: (a) evaluating the entire implementation process of programs already developed or under construction, and not just the final result; (b) prioritizing the replication of a previously evaluated program than the implementation of a new one, since the former has already been evaluated and

is more likely effective; and (c) involving professionals voluntarily committed to good practice actions since they tend to be more collaborative. In short, the main recommendation was to remain faithful to the original program (following the manual of what the scientific evidence suggests), but to adapt it according to the context, evaluating each step, and aligning public health policies with those of education and social protection.

Ducharme et al. (2016) pointed out that those international agencies that promote drug research, such as the National Institute on Drug Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA), have been investing in discovering ways to improve the treatment for SUD in both primary care and general hospitals. As the study of Pedroso et al. (2019), they focused on adapting the treatment protocol to the local context and individual characteristics of the user as an essential approach to ensure the continuous adjustment of the practice to its local conditions. They also recommended interventions focusing on joint decision-making between professionals, patients, and family members, which is congruent with humanization policies, since the patient preferences are a critical component for the acceptance of the intervention.

Thus, in the area of drug abuse, working under the premises of EBPP is not an easy task. A systematic review identified 32 guidelines on SUD for adolescents, but only nine were considered high quality and evidence-based recommendations, and of these, only four had direct recommendations specific to teenagers (Bekkering et al., 2014). Targeting adult treatment, Damschroder and Hagedorn (2011), in their guide for implementing evidence-based practices for TUS treatment, stated that three objectives should be met: (1) to differentiate essential and adaptive components of the intervention; (2) to develop and apply techniques and strategies that can be adapted and extrapolated for use in different contexts; and 3) to develop strategies for evaluating the intervention considering its sustainability in different contexts. The orientations of the guide are in line with the conclusions and indications of the authors of the described systematic reviews.

Next, a clinical case will be presented illustrating an EBPP approach in which the three elements of a good practice are integrated in the conduct of the case: the empirical evidence, the expertise of the professional, and the characteristics of the client.

Clinical Case

The clinical case reported was attended by a psychotherapist from the Center for Research, Intervention and Evaluation in Alcohol and Other Drugs (CREPEIA), of the Department of Psychology of the Federal University of Juiz de Fora (Brazil), which offers free care to alcohol-dependent patients. The treatment is based on a protocol presented in the Cognitive-Behavioral Coping Skills Therapy Manual of the Project Match (1995), which reproduces the procedures used in the Matching

Alcoholism Treatments to Client Heterogeneity (Project MATCH) of the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

The Project Match was a multi-center clinical trial, conducted only in the United States, based on the concept of "treatment matching," which may be regarded as targeting different treatment approaches according to the particular patient needs and characteristics (Gumier & Sartes, 2015). In order to test the hypothesis that treatment focused on the individual needs of each patient could bring better results compared to the treatment of all the patients with the same diagnosis in the same way (Kadden et al., 1995). The Project Match compared the results of the cognitive-behavioral coping skills therapy with the motivational interview and the 12-step facilitation therapy. For this purpose, the protocol was translated and adapted, and its effectiveness was tested for the Brazilian context and for online care (Gumier, 2019; Gumier & Sartes, 2015).

It is important to mention that, since it is a free service offered in a university context, the population attended at the Center presented moderate to severe alcohol dependency. They were referred from other local health and social services, and had a number of other social vulnerabilities that needed to be considered and adapted in the protocol for a good evidence-based practice. Although the used protocol clearly suggested the interventions to be performed in each session, many times the psychotherapist and supervisor needed to adapt the sessions to the time and need of the patient and according to the perception and experience of the therapist, as suggested by the evidence-based practice.

Patient Marcos (fictitious name), 51 years old, Incomplete Elementary School, sought psychotherapeutic care to treat his problems with the alcohol use. Marcos was divorced twice due to problems related to his alcohol consumption and, during the period of the care, lived alone. The patient had recently undergone surgery and, due to this, it was necessary for him to remain abstinent while hospitalized. During this period, he presented several abstinence symptoms such as irritability, sleep disorders, and hallucinations. Therefore, by resorting to psychotherapy, Marcos was already abstinent for 20 days and his goal was to maintain this consumption pattern.

In adapting the Project Match to the Brazilian population, two evaluation sessions were held, one for applying questionnaires and the other for returning the results. In the evaluation, the patient reported that in the period prior to abstinence he consumed alcohol on a daily basis, during the whole day, which did not allow him to be clear about the number of doses ingested per day. However, he informed the therapist that he consumed, on average, six liters of *cachaça* per week. Besides the consumption in small doses during the day, the patient met with friends regularly only to drink. No psychiatric comorbidity was found and he did not consume other substances.

The adaptation of the protocol for Brazil included motivational elements that needed to be carried out in the devolution session according to the level of motivation of the patient. In most protocols of cognitive-behavioral therapy for substance abuse, such as this one of the Project Match, it is recommended that the patient will benefit more from the treatment if he/she is in an advanced stage of motivation to change his/her drinking behavior, as in "Preparation or Action" (Prochaska &

DiClemente, 1982). However, Marcos, as well as most of the patients of this project, was in the Contemplation Stage according to the University of Rhode Island Change Assessment Scale (URICA). Although the patient had already sought treatment, which might suggest that he was in the Action Stage, he was still ambivalent about being completely abstinent, due to the relationship with friends and the pleasure that the substance brought, and based his motivation on the abstinence symptoms experienced after the surgery and on previous relationship problems. The inclusion of the motivational elements already in the devolution session was a way to include the patients who arrived mostly in the Contemplation Stage. In other words, we tried to make an adaptation according to the necessities of the patients.

The psychotherapy protocol consisted of 12 sessions of which the first seven were of fixed content and the last four of variable content. The standard content sessions were structured in the following sequence: setting goals to be achieved; psychoeducation on alcohol dependence; recognition of risk situations and protective factors; discussion of the pros and cons of quitting drinking; training in alcohol coping skills and problem solving; and self-control tasks of alcohol use and the thoughts and feelings involved in these situations. According to the life history report and self-monitoring of Marcos, the greatest risk factor associated with alcohol consumption were situations that aroused feelings of sadness and anger. Therefore, most of the time, Marcos used alcohol as a strategy to deal with negative feelings, which made it difficult to find solutions to his problems. Other identified risk factors were related to the context of social interaction, the need for disinhibition and relaxation. In contrast, the patient presented important protective factors, such as high motivation for psychotherapy, solid family support network, good cognitive capacity, and high adherence to treatment and proposed activities.

The last four sessions of the protocol were chosen from 14 sessions with varied topics, according to the needs of the patient. This way of performing the protocol meets the evidence-based practice in which the expertise of the therapist and the specificities of the patient are taken into account. In the case of Marcos, the topics "Managing of Anger," "Managing Negative Thinking," "Increasing Pleasant Activities," and "Enhancing Social Support Network" were chosen collaboratively. The first two themes were chosen because of the highest risk factor for this patient were situations that resulted in these feelings. The session "Increasing Pleasant Activities" was selected because, since alcohol consumption was the only activity that generated pleasure before abstinence, after the cessation of its ingestion Marcos saw his life in a boring way, which often resulted in episodes of cracking. Finally, the session "Enhancing the Social Support Network" was picked because the patient and the therapist realized that besides the family, his closest social support network was composed only of people who also consumed alcohol, which frequently put him at risk.

At the end of the therapeutic process, Marcos remained abstinent, without episodes of lapse and/or relapse, and pointed out that the treatment was essential to maintain his abstinence. He reported that he had previously tried to stop consumption, without success, because he did not have the tools that the therapy provided. He pointed out as main interventions the substitution of alcohol consumption by

other pleasurable activities, identification of risk situations and avoidance strategies, distraction techniques, and anger and negative thoughts management. In addition, the therapist identified as crucial for a good psychotherapeutic result the patient involvement in the process. On several occasions, Marcos reported remembering the sessions and techniques during the craving episodes, which resulted in a progressive decrease in both their frequency and intensity. Moreover, the patient performed all the activities and tasks proposed, without demonstrating difficulty or discomfort. Both patient and therapist identified the therapeutic relationship as a very important factor in the process of changing alcohol consumption.

Final Considerations

This chapter systematized studies of EBPP evaluation among people with SUD, concluding that cognitive-behavioral therapy with relapse prevention, behavior therapy for couples, contingency management, and motivational interview are successful practices in the treatment of this problem. This chapter showed that, for the treatment of this type of disorder, besides the type of intervention, aspects such as context, drug of choice, and pattern of consumption needed to be considered when designing an individualized treatment plan. In a complementary manner, this chapter reported a clinical case in which a program already consolidated in the United States was adapted for the treatment of alcohol use disorders, presenting its application in the Brazilian context.

Despite the criticism about the evidence-based practice in psychology, mainly related to the standardization or manualization of certain interventions, such practice has been increasingly widespread among professionals in this area. Considering that in the very definition of EBPP the preferences and profile of the patient must be prioritized in the evaluation for the choice of intervention, any protocol that presents evidence of efficacy and effectiveness must be adapted to the characteristics of the patient and to the social, economic, and cultural context in which he/she is inserted. Thus, it is expected that this chapter will encourage more psychologists who work in the field of drug use/abuse to base their practices on evidence-based psychology.

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Chapter 16
The Application of Motivational Interviewing to the Treatment of Substance Use Disorder

Neliana Buzi Figlie and Janaina Luisi Turisco Caverni

Introduction

There are millenary data on the consumption of substances able to change human behavior whether for medical, scientific, religious, or even recreational use (Escohotado, 1995). With the development of our society, this consumption has increased, and in the last decades it has shown to be harmful to our society, with the appearance of various morbidities and mortalities, as well as social and legal problems (decreased productivity, involvement with drug trafficking and crime) (UNODC, 2011).

With all these scenarios, some models of treatment began to emerge mainly guided by the principle of confrontation: they believed that people with problems related to the use of alcohol or drugs had very rigid defenses, which prevented them from recognizing their situation, and consequently the treatment would only be through confrontation. In this way, the method proposed a rigidly hierarchical community life among dependents, using the therapy called "shock." In this context, it was observed that these people had great difficulties in changing their behavior, being seen as resistant to change. In the 1980s, a motivational interviewing in the health environment was created, with special attention to addiction treatment, especially in relation to treatment adherence (Miller & Baca, 1983). The authors William Miller and Stephen Rollnick, believed in the possibility of offering a new approach, more dignified and humanistic, taking into account mainly the motivation and ambivalence within the process of change and in this context the motivational interview was born (Miller & Rollnick, 2013).

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Historical Overview

Initially, in its first edition, the motivational interview focused on people with problems related to alcohol and other drugs. However, soon after its first publication, several studies were conducted and it is now possible to find the motivational interview in other fields of intervention, with an emphasis on family and justice (Simmons, Howell, Duke, & Beck, 2016), sexual risk behaviors (Pettifor et al., 2015), food quality in young diabetics (Nansel et al., 2015), pregnant and obese women (Lindhardt et al., 2015), oral health prevention (Masoe, Blinkhorn, Taylor, & Blinkhorn, 2015), and even the use of motivational interview to reduce threats in conversations about risky environmental behavior (Klonek, Güntner, Lehmann-Willenbrock, & Kauffeld, 2015).

In its first publication (Miller & Baca, 1983), motivational interview draws attention to its principles, strategies, and traps. In its second edition (Miller & Rollnick, 2001), the authors emphasize the importance of professionals developing some essential skills during the conversation, and then the OARS concept (from the Portuguese acronym PARR – open questions, affirmation, reflection, and summary) emerges. Rollnick, Miller & Butler (2009) dared in their proposal and published *Motivational Interview in Health Care*, expanding the target audience that could benefit from the approach. However, after so many adaptations, through findings of clinical trials, the authors concluded that more changes would be necessary for the real understanding and effectiveness of the motivational interview (Miller et al. 2005; Miller & Moyers 2006) and made a new publication (Miller & Rollnick, 2013), in which they proposed significant paradigmatic changes and included the concept of the "Spirit" of the motivational interviewing, which is described as collaborative, evocative and with respect for the client's autonomy (Gordon, 1970; Miller & Moyers, 2006). Currently, the motivational interview is considered a counseling approach and has been gaining space, besides health (Botelho, 2004), in the area of education (Snape & Atkinson, 2016), justice (Coulton et al., 2017), social assistance (Hohman, 2012), and recently sport (Rollnick, Fader, Breckon, & Moyers, 2019).

Current Evidence

One of the important aspects observed in current research is how much behavior change remains after an intervention based on the motivational interviewing. A study of 461 patients who met the criteria for DSM-IV for substance use disorders compared 4 weeks of structured intervention in the motivational interview with traditional counseling (Ball et al., 2007), and the results showed that there was no difference between groups in the percentage of urine samples with positive results for substances. However, the motivational interview led to changes in substance use pattern that were maintained over 12 weeks.

A meta-analysis (Smedslund et al., 2011) with 59 randomized studies, totaling 13,342 adult participants diagnosed as substance-dependent according to DSM-IV, found that, compared to no treatment, the motivational interview resulted in a significant reduction in the use of substances after intervention (standardized difference of means [SMD] = 0.79, 95% CI 0.48–1.09), as well as in the 12-month follow-up (SMD = 0.15, 95% CI 0.04–0.25)[36]. No difference in substance use was observed when the motivational interview was compared to traditional treatment for substance use disorders (SUDs), other types of treatment, evaluation, and feedback.

Some tests were conducted comparing the combination of motivational interview and treatment intervention for (SUDs) with a traditional intervention with promising initial results. Another randomized trial of 105 cocaine dependence patients (DSM-IV) compared a detoxification intervention and a detoxification session based on the motivational interviewing intervention (Stotts, Schmitz, Rhoades, & Grabowski, 2001). Patients who received the motivational interview–based detoxification increased their use of *coping* strategies and showed lower frequency of urine samples with positive results for cocaine. Other systematic reviews and meta-analyses have reported that the motivational interview showed effectiveness in treating substance abuse in adolescents (Tait & Hulse, 2003) and college students (Carey, Scott-Sheldon, Carey, & DeMartini, 2007) and in smoking cessation (Lai, Cahill, Qin, & Tang, 2010).

A differential of the motivational interview is that with training, it can be effectively performed by doctors, counselors, and other professionals, indicating that the profession seems not to affect the effectiveness of the motivational interview, with effects observed in one to four sessions, with a "minimum" dose of about 20 minutes (Rubak, Sandbaek, Lauritzen, & Christensen, 2005). It is worth noting that more sessions have been associated with greater efficacy.

A review article analyzed the association between professional, patient, and post-intervention behaviors in 19 controlled trials using the motivational interview and found three constructs associated with the outcome of the studies, namely: the emergence of change statements in patients was associated with better outcomes; the perception of discrepancies by clients was associated with better outcomes; behaviors inconsistent with the motivational interviewing by the professional such as offering information and advice without permission were associated with worse outcomes (Apodaca & Longabaugh, 2009).

What Is Motivational Interviewing?

Motivational interviewing is a collaborative conversation style for strengthening a person's own motivation and commitment to change in favor of a more conscious, functional, and healthy lifestyle.

Figure 16.1 shows the different definitions of the motivational interview, according to the perception of a layperson, a practitioner, and a technical definition (Miller & Rollnick, 2013).

Definition of a layperson

A collaborative conversation style to reinforce own motivation and commitment to change.

Definition of a practitioner

A counseling style centered on the person to address issues concerning about the ambivalence about change.

Technical definition

A collaborative-oriented communication style to a specific purpose of promoting change. Aims to strengthen personal motivation for commitment to change, collecting and exploring the person's reasons in an atmosphere of acceptance and compassion.

Fig. 16.1 Definitions of the motivational interviewing. (Adapted from Miller & Rollnick, 2013)

A very important aspect to take into account is how motivated a person is or not to any kind of behavior change, because in general there is something in human nature that resists change by feeling coerced and forced to do so. Ironically, sometimes the recognition of the other's right and freedom not to change is what makes change possible. The motivational interviewing considers that motivation can be activated, stimulated, and constructed, unlike some approaches that believe that motivation is innate. It was then observed that motivation is a state and not a personality trait, and can thus fluctuate depending on the situation or even be evoked and stimulated at any time by a trained professional (Miller & Rollnick, 2013).

Until today many approaches or treatments believed that they could only help the client if they wanted to, but the motivational interview has proven otherwise. Because it is an approach that has a specific goal: to solve ambivalence, it is understood as a brief intervention and can therefore be used by a wide range of professionals in different services (Moyers, Houck, Glynn, Hallgren, & Manuel, 2017).

The motivational interview involves more listening than speaking: the client is expected to speak for most of the intervention (approximately 75% of the time). The idea is for the client to change by speaking (from English *Change talking*), replacing the premise: *I have what you need* vs. *You have what I need and together we will get it* (Miller & Rollnick, 2013).

This conversation provides the client with a learning opportunity, with full and free acceptance, without fear of the feelings, values, and thoughts that the professional may have; and therefore the role of this professional is of paramount importance in this relationship. In this perspective, together with your client, you will recognize your potential, resources, and abilities to structure real, tangible, and positive changes in your life. By taking this gentle path, the professional reinforces the autonomy and responsibility of this client, helping him to believe in his process and in the maintenance of this evoked and desired change (Arkowitz, Westra, Miller, & Rollnick, 2011).

Motivational Interviewer Clinical Style

Fundamental Premises

Taking into account some fundamental premises, the professional will have the chance to develop his own clinical style of the motivational interviewing. The objective of this style will be to strengthen a possible union between professional and client in a unified way, thus providing a team functioning in favor of change. Remembering that the professional is the specialist, the holder of some scientific knowledge, but the client is nothing more than the specialist in his own life and with that we must respect mainly his choices (Miller & Rollnick, 2013) and share the various knowledges without the supremacy of a single knowledge.

Some basic premises that help the practice of motivational interview by the professional (Box 16.1).

Motivational Interviewer Communication Style

Often at the end of a consultation, we leave with the feeling that we have not achieved our goal or even the perception that we have not been heard. The conversation ends up becoming a clash where, for example, the client does not agree with the professional's speech. The result is a dysfunctional conversation, with the objective of correction and many times loaded with judgments between certain vs. wrong (Figlie, Guimarães, Selma, & Laranjeira, 2015). In this context, the professional acts with the posture of "to fix the client" what Rollnick calls a reflex righting reflex

Box 16.1 Fundamental premises that Will Help the Professional during the Motivational Interviewing Practice

1. Empathy, congruence, collaborative spirit in increasing motivation for change.
2. Adoption of a calm and eliciting style.
3. Consider natural ambivalence. The motivation for change should be elicited in the client and not imposed.
4. Resistance can be reduced or increased through interpersonal interactions. The professional is directive in helping the client to examine and solve the ambivalence.
5. The *client-professional* relationship must be collaborative and friendly. The professional acts as a facilitator in the process, stimulating and supporting the client's self-efficacy, being the client responsible for his/her progress.
6. Abstinence is the safest goal, but not always the best choice, especially with customers in pre-contemplation or contemplation.

and which should be avoided as much as possible by the professional (Rollnick & Miller, 1995).

The way the professional communicates is of extreme importance (Miller & Rollnick, 2013), and with this, a very common analogy to motivational interviewing is dance. It is part of the professional's task to gently lead his client toward change. As it happens in a dance: to have a responsible person to lead the steps and with that the couple flows in agreement and harmony so that the activity is enjoyed to the maximum (Sales & Figlie, 2019).

According to Miller and Rollnick (2001), the communication style concerns the posture and approach used by the professional to help his clients, a way to structure the dialogue that characterizes the relationship between them. If we, healthcare professionals, wish to have different results in relation to changing the behavior of our clients, we need to change our "style" of communication.

Each of the three communication styles proposed here reflects different postures about the role of the professional in his/her relationship with the client. Thus, each one of them should be analyzed and used during the process of change in the different situations and moments that will arise: directing – guiding – following.

1. *Following*: Give full attention to what the client is saying. It consists predominantly of listening attentively, without judging or criticizing. The objective is to understand the experience and values of the other, in other words, to understand what is happening through the eyes of the client. Example: *I will not tell you to throw your cigarette away today. First, I would like to understand better what brought you here.*
2. *Directing*: This style of communication highlights the interpersonal relationship, quite different from a traditional customer-centered approach. In the motivational interview, the professional has the control of the therapeutic relationship. At specific moments, this direction by the therapist is vital in the treatment. There are situations in which the client should be encouraged to rely on the knowledge and experience of the professional so that the treatment is viable and safe. For example: a client with severe alcohol dependency should be guided to trust the professional when it is said that, in order to carry out the detoxification process safely, it is necessary to follow up with the use of medication and with more frequent returns.
3. *Guiding*: To help the client find a path according to the change he wants to make at the moment, offering a menu of options that can help him in the transformation process. Example: *I can help you by reporting on what resources people generally use to deal with cracking moments, so you can test them and choose those that are most useful to you.* The suggestion here is to offer at least two options so that the client can have the autonomy of choice. Remembering that the more options, the better.

There are some verbs that will facilitate "navigation" in communication styles (Miller & Rollnick, 2013) as explained in Table 16.1.

Table 16.1 Verbs associated with each communication style

Following	Directing	Guiding
Allow	Administer	Accompany
Attend	Authorize	Arouse
Be responsive	Command	Assist
Be with	Conduct	Awaken
Comprehend	Decide	Collaborate
Go along with	Determine	Elicit
Grasp	Govern	Encourage
Have faith in	Lead	Enlighten
Listen	Manage	Inspire
Observe	Order	Kindle
Permit	Prescribe	Lay before
Shadow	Preside	Look after
Stay with	Rule	Motivate
Stick to	Steer	Offer
Take in	Run	Point
Take interest in	Take charge	Show
Understand	Take command	Support
Value	Tell	Take along

Source: Miller and Rollnick (2013)

Three Basic Communication Skills of a Motivational Interviewer

Usually health professionals question, listen, and inform their clients in their consultations; however, it is worth asking: "How do you do it?" The difference is that in the motivational interview these skills are used strategically, because they are communicative skills that mainly explore the resolution of ambivalence for the modification of risk behavior (Rollnick, Miller, & Butler, 2009).

The following are some guidelines for good communication practice:

- Ask where the client wants to go and meet him.
- Inform the person about the options and try to see what is most feasible for them.
- Listen and respect what the person wants to do and offer help and guidance in this regard.

In general, people feel ambivalent about change because, in a way, there are disadvantages to change in the face of the unknown, no matter how much the choice is in the name of health. A clear sign of ambivalence is the *but* in the middle of the sentence (e.g., I need to stop using drugs, *but I* can't). Ambivalence makes people lose themselves in their goals and is usually experienced in the following way: the individual first thinks of a reason to change, then thinks of a reason not to change, and finally stops thinking about it (Rollnick et al., 2009). It is important to stress that working with ambivalence is working with the essence of the problem, with the real motivations that will lead you to maintain or change behavior (Miller & Rollnick, 2002).

When the professional adopts a directive style with the ambivalent person, he ends up adopting a side of ambivalence. In this situation, a common response is the

client's argument. This scenario is the confrontation of ambivalence. In the motivational interview, the goal is to evoke the conversation about change instead of resistance in the change.

It is indicated that the professional listens to the arguments in favor of transformation, because when the professional defends the change and the client defends the *status quo*, the treatment tends to fail. To make it easier for the reader to understand, there are six types of conversation about change (Table 16.2).

Table 16.2 Six types of change lines

Types of talk	Definition	Typical verbs	Examples of questions to evoke the change
Desire	The wish statements speak of the person's preferences in changing or maintaining the *status quo*.	Want, like, wish.	What do you want, wait? How would you like your life to be? What do you expect to happen?
Ability	It reveals what the person realizes is within range of their ability.	Power	What are your chances? What can or could you do? What can you do?
Reasons	Expresses specific reasons for change.	There are no typical verbs, although they can be exteriorized with verbs that express desire.	Why do you want to make this change? What would be some specific benefits? What risks would you like to reduce?
Need	Indicates need or shortage.	Need, have, should, need.	How important is this change? How much do you need this change in your life?
Commitment	It reveals statements that indicate a desire to change, even when there is doubt.	I'm going to.	How do you think your future? How do you plan your treatment?
Activation and taking steps	Indicates actions toward change, even if they are small steps (e.g., reading a book indicated, avoiding a party, changing a path to avoid relapse).	There are no typical verbs, but verb tenses are common in the past.	What will you do from now on? Tell me what you've been doing to avoid feeling a fissure.

Source: Rollnick et al. (2009)

Taking into account Table 16.2, people initially talk about what they want to do (desire), why they would change (reasons), how they would do it (skills), and how important it is (need). Then comes the commitment that if strengthened gradually increases toward action and taking steps toward change. For this, it becomes relevant to prospect the client's values, aspirations, and hopes in order to culminate in the steps to change behavior (Fig. 16.2).

Essential Motivational Interviewer Skills

For the conversation to happen in a collaborative way, some skills must be trained and cultivated. Some strategies have been created to facilitate and reinforce this conversation, such as: using reflections, positive reinforcement, summaries, offering information and advice, and open-ended questions (OARS / PARR) in a ratio of at least 2:1; that is, each open-ended question asked would be indicated by using reflections, affirmation, or even a summary (Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). In this context, the questions are used to a lesser extent, as it is expected that all other strategies may generate more speech from the client, so that the client speaks more than the professional and has a greater openness to listen, by facilitating communication. In this way, more material emerges for the professional to work and thus reinforces the client as the protagonist of his/her own life (Figlie & Payá, 2004). See in Box 16.2 the acronym of PARR (in English OARS).

Open Questions

A good way to start a conversation is to ask questions in a way that encourages the client to talk as much as possible. Open questions are those that cannot be answered easily with a simple word or phrase. Here are some examples of initial questions:

Box 16.2 Essential Motivational Interviewer Skills under the Acronym OARS / PARR[a]

O	Open questions
A	Affirmation (positive reinforcement)
R	Reflection
S	Summary

Source: Miller and Rollnick (2013)

[a]*PARR* Perguntas abertas – afirmação – reflexão – resumo

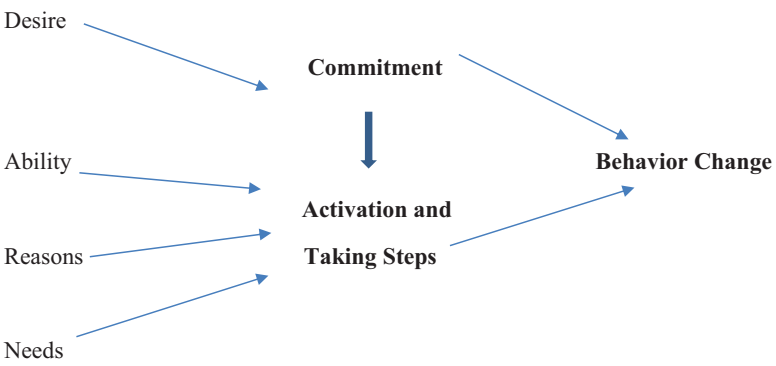

Fig. 16.2 How the change talk fits. (Adapted from Rollnick et al., 2009)

- Could you tell me a little more about your consumption of alcoholic beverages?
- Do you remember what was happening in the days before your relapse?
- What could I do for you today?
- What would you like to talk about today?

The main objective of an open question is to open communication, strengthening and encouraging customer autonomy.

Reflection

This is the main strategy in the motivational interviewing and should constitute a substantial proportion during the initial phase of the conversation. The crucial element in reflective listening is how the professional responds to what the client says. Thomas Gordon outlined the model of reflective thinking that connects what the client said with what the professional heard, with the professional's thinking about what the client wanted to say to finally connect what the client wanted to say with what he actually said (Figlie & Payá, 2004). By reflecting, the professional puts himself in the relationship, but at the same time he must be faithful to what the client said. For this reason, the motivational interview does not work with interpretation and demands from the professional the neutrality to faithfully reflect what the person said, avoiding deductions and assumptions and faithfully reflecting what the client said (da Silva et al., 2015).

Offering reflective listening requires training and practice to think reflexively. The process of active listening requires: careful attention to what the client says; clear visualization of what has been said; formulation of the hypothesis concerning the problem, without assumptions or interpretations; articulation of the hypothesis through a non-defensive approach. To evaluate if the reflection made was effective, it is enough to analyze the client's reaction. If it expresses agreement, if it does not present a defensive posture, if the conversation opens space for the client to speak more, and if the client presents a more relaxed or motivated verbal posture, these are signs that the reflection was effective. On the other hand, if the client begins to warn

or threaten, persuade, argue, disagree, judge, criticize or blame, retract, distract, be indulgent or change subjects, these are clear indications that reflection has not been effective and it is up to the professional to reformulate. It is also essential to evaluate the nonverbal communication by receiving the reflection.

There are types of reflection, namely: simple and complex. The simple reflections are a repetition of what the client said, without adding much information. It has the function of establishing the connection, linking the client to the intervention so that he feels understood. It also serves as a possibility for the professional to better elaborate his listening, before making the complex reflections, or in moments of tension in the conversation. Example:

Client: You *no longer feel like using this type of drug, but when I see it I have already used it.*

Professional: *You're telling me you don't feel it anymore, but you still use it.*

Complex reflections, as the name says, add information to listening to the client, and there are types of complex reflections (Figlie, 2001), described below.

- *Amplified reflection***:** A very useful approach is to reflect something that the client has said in an exaggerated or amplified way. If the strategy is successful, it will encourage the client to step back and elicit the other side of ambivalence. But beware: an overblown or sarcastic statement may elicit even more resistance.
- Example: Customer: *I don't want hospitalization! I don't need it*.
- Professional: *I understand that for you now is not the time to go into hospital, although you had a convulsive crisis due to the alcohol withdrawal syndrome that put your life at risk.*
- *Double-side reflection*: Implies in recognizing what the client said and adding the other side of ambivalence. This can be done by using material that the client has previously offered, even in another session.
- Example: Customer: *I'm very angry.*
- Professional: *I understand that you are angry, but we also know that the fact that you are angry makes you seek a relief from drinking.*
- *Reflecting the underlying feelings*: It is the deepest form of reflection, in which emotional elements are incorporated so that the client is aware of his feelings. It is important to point out that this type of reflection is only used when the client's history is known or when he or she clearly demonstrates their feelings.
- Example: Customer: I don'*t think I'm gonna need an admission.*
- Professional: *I understand that this situation discourages you and makes you feel powerless over drugs.*
- *Metaphor or paraphrasing*: Moves far beyond content to provide a model for understanding, using image figures, popular sayings and metaphors.
- Example: Customer: *I often end up using drugs to relieve a pressure that I feel with so much professional and personal billing.*
- Professional: *You feel like you carry the world on your back.*

Affirmation – Positive Reinforcement

The positive reinforcement also has its place in the motivational interview, being one of its peculiarities. It can be accomplished by offering appreciation, positive reinforcement, and understanding on the part of the professional, who endorses the person's qualities, values, skills, and positive strengths. Here are some examples:

- *It seems that all your efforts to stay abstinent are paying off!*
- *Even with all this external charging, taking care of your health is one of your priorities.*
- *Even though you're late, you didn't give up coming to the appointment, thank you.*

Affirmation is a form of genuine support, encouragement, and true recognition of what is of value in every human being – and not offering mere praise. Positive reinforcement must be genuine and based on evidence of reality, because if it is based solely on the speech of the client, if he is lying, it may act as an obstacle to communication.

Summary

Summaries are sets of reflections and statements and can be used to connect the issues that were discussed, demonstrating that you listened to the client, as well as working as a didactic strategy for the client to organize their ideas. Abstracts provide links between the content present and those discussed previously. In the motivational interview, the summaries can be used at various times during the session: when the client has placed several ideas simultaneously and the professional tries to connect them and reflect them to the client for a better understanding; it works as a strong indication for the client that they are being listened to attentively by the professional generating less resistance and increasing the therapeutic bond; it can also be used in transition phases in the processes during the intervention, with an educational purpose.

Example: *Today you brought me that you are trying to organize your routine even in the face of so much demand and external and internal collection. You realize that you are keeping the focus on abstinence and bringing moments of self-care. You notice that it is a daily construction and in some days you are able to deal with all that demand and some days you are not, but in spite of everything you are reaping good fruits and learning to deal mainly with emotions and thoughts of anger and fear. Very good, it seems that we are on the way*.

Learning the Motivational Interview in Eight Stages

During all the years of the motivational interviewing, several skills were pointed out as important in applying this approach. It has been proven that post-treatment results using motivational interview depend on the skills of the professional who attended and used the resources in the intervention. Acquiring proficiency in motivational interview is not an easy task. Although, at first glance, the tools used in this approach are similar to what is normally already done in daily life and clinical practice by attentive and careful professionals, the ability to apply the principles of motivational interview in a faithful, consistent, and natural way requires training, practice, and supervision. Miller et al. (2004) described the learning of the motivational interview by health professionals as they gained experience in applying the motivational interview strategies.

After decades of experience teaching clinicians from diverse health areas from countries around the world, Miller and Moyers (2006) pointed out that key skills are acquired by the professional according to training, participation in supervision, and the use of the principles in clinical practice. The development of the professional in this practice happens in a sequential and growing way, so that the first stages represent prerequisites for the later stages. The sequence of acquisition of MI skills in the order described by the authors is as follows:

1. Work in partnership with the client, based on the recognition that he is the expert in his own life.
2. Offer client-centered advice, including accurate empathy.
3. Recognize the key aspects of the client's statements that guide the practice of motivational interview.
4. Evoke and strengthen the client's change lines.
5. Deal with the sustain talk and discord.
6. Negotiate a plan of action.
7. Consolidate the client's commitment to change.
8. Be flexible in using the motivational interview associated with other intervention styles.

Currently, health professionals interested in incorporating the principles and techniques of motivational interview into their clinical practice have a series of books, articles, and manuals that assist in learning and correctly using this approach (Miller & Moyers, 2006).

Final Considerations

It is necessary to take into account the person, the substance consumed, and its context of insertion, that is, an integral perspective that encompasses biological, affective, subjective, community, social, epidemiological, economic aspects, among

others; and the motivational interview provides this look in a simple way, but that requires training. The processes of change involved are natural and, in an intuitive sense, we all know and recognize. Perhaps this is one of the reasons why the motivational interview was born. However, its practice requires the integration of some quite complex skills that can be improved with practice. Reflective listening alone is a challenge. For someone who is good at this, it may seem easy, as natural as breathing, until you try to do it.

Motivational interview is a style of counseling that has a theoretical basis and is not merely a set of techniques (Lundahl & Burke, 2009). It has a practical and objective methodology, which can be conducted by any professional, as long as he or she is trained to do so. In view of this, through tests and adaptations with scientific rigor (Beckman, Bohman, Forsberg, Rasmussen, & Ghaderi, 2017; Jelsma et al. 2015; Miller et al. 2005), the motivational interview aims, in addition to changing behavior, to add a humanist and constructivist view on changes in risk behaviors.

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Part IV
Clinical Interventions: Main Approaches to Psychotherapeutic Care

Chapter 17
Therapeutic Companion to Alcohol Users and Other Drugs

Guilherme Cantieri Bordonal, Murilo Nogueira Ramos, Yuri Lellis, and Simone Martin Oliani

Introduction

For behavioral analysis, the therapeutic companion (TC) has become a possibility for the most diverse types of intervention. With the TC, it is possible to perform the manipulation and observation of the client's behavior in the environment outside the clinic – home, work, school, hospital, leisure areas. Generally, the work of the TC is carried out by psychology professionals, students at the end of the psychology and psychiatry degree. Thus, the TC work is an excellent opportunity for students with little professional experience, also reducing the financial cost for the client, since TC's working hours are generally more accessible due to being done by undergraduates (Guerrelhas, 2007).

The first uses of TC occurred in Argentina, stimulated by psychoanalysts, at the end of the 1960s, with patients who did not present satisfactory results with classic therapeutic practices of hospitalization and therapy office (Londero & Pacheco, 2006). In that same period, anti-asylum movements occurred in the United States and Europe, creating therapeutic communities, with a new episteme on mental health, based on the studies of Foucault (1998, 2014a, 2014b) and Deleuze and Guattari (2017). For these authors, the formation of this field of knowledge and medical practice contributed to a process of social exclusion of those who did not fit into a productive logic of modern society. In this way, the work of the TC was seen as more able to promote effective social bonds than those offered in psychiatric hospitals, allowing the guarantee of citizenship to patients and a greater social inclusion of people with mental suffering in various physical and social

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environments. Alberti, Teixeira, Beteille, Rodrigues, and Martinez (2017, p. 131) stress that "the TC is a very present clinical device in the process of psychosocial rehabilitation, having as one of its objectives the rescue of social bonds, citizenship and the movement of people with mental suffering across different physical and social environments."

For Palombini (2006), following the mental health service user is a way of implementing the psychiatric reform, favoring the deinstitutionalization of madness, promoting the exercise of the user's autonomy, so that he or she can gradually assume its functions in the community. This has become a valid anti-segregation and prevention strategy against social alienation (Bertolote, 1996; Pitta, 1996).

It is understood that there is a new way of approaching the treatment of people with mental suffering. In the late 1960s, due to the influence of the anti-asylum current which gained space in the media and academic debates, most psychiatric institutions began to review the way their patients were hospitalized. The first collaborators who initiated the practices of TC within psychiatric clinics were named "psychiatric assistants" (Simões, 2005). In addition to the work in institutions, they were also requested for private work in the patients' residence, coming into direct contact with the daily life and the family environment. At first, the TC was named "qualified friend" (Alberti et al., 2017; Londero & Pacheco, 2006). However, these terms fell out of use as this practice began to gain more professional features.

In Brazil, the main function of the TC's activities was to accompany patients in extra-clinical activities previously established by clinical professionals. It was also an alternative to hospitalization in a psychiatric hospital. The client (or patient) was hospitalized at home, the TC being there with him, guided by doctors and psychologists. Nowadays, for such work to be positive, it is crucial that the TC is always guided by an experienced psychotherapist, and responsible for the design of the intervention (Guerrelhas, 2007).

With the development of the theories of behavior analysis, there was a transposition of the laboratory model to its applicability in the clinical context, creating useful tools to modify the behavior, with behavioral techniques in therapeutic programs to promote significant improvements in clients. The work of the TC, guided by the science of Behavior Analysis, has gained relevance and thus this professional was requested to do various services in environments outside of clinics and hospitals.

Nico and Thomaz (2007) stressed that the contingencies which are present in everyday life probably have greater stimulation variability than those of the traditional and intra-clinic therapy environment. This extension in the number of stimuli will increase the probability of new responses being evoked and may be reinforced differently, either by the therapist's intervention or by the direct consequence produced by the client's response in the natural environment. In this sense, the work developed outside the clinic may favor both the expansion in the class of previous and consequent stimulus that start affecting the responses, as well as the variability of the responses that make up the client's repertoire.

Thus, the TC has the opportunity to act closer to the client's daily routine, allowing the performance in a larger network of relationships than those allowed in the

clinic. In the classical therapy model, the verbal report and the psychotherapist's intervention take place in the clinic. The work of the TC is necessary when the verbal interaction performed in the clinic becomes insufficient; after all, the operant behavior is a product of the organism's interaction with the environment. A direct action on the environmental contingency for a certain behavior may be necessary and more effective (Nico & Thomaz, 2007).

The work of the TC in the natural environment will facilitate the observation of the behavior outside the clinical environment, bringing more data for the psychotherapist's analysis. It can be analyzed if there are discrepancies between the response classes observed in the clinic and during the performance of the TC's work, also helping create models in contexts where such repertories are observed and also in the description of contrasts with verbal behavior (Nico & Thomaz, 2007).

Thus, in this integrated effort, it is possible to model the appropriate behavioral repertoire in the environment where the analyzed behavior occurs, applying reinforcements as soon as the appropriate behavior occurs in this context. These reinforcements are fundamental because they favor the acquisition of behaviors which have not yet been developed by the client, as Rosenfarb (1992) pointed out, indicating that the learning history of the client may present failures in the acquisition of pro-social behaviors, either due to the lack of positive social reinforcement and/or history of excessive punishment and that the psychotherapist within the therapeutic relationship may reverse.

For the behavior analysis, applying the consequence of a behavior immediately after it occurs increases the magnitude of the reinforcing consequence, also increasing the probability of the behavior being selected. Therefore, the more the reinforcement is delayed, the smaller its magnitude is. This can be one of the problems of classical therapy, in which the new interaction between client and therapist may take a week to occur again, losing the "chance" to manipulate contingencies that select the target behavior (Kanter, Kohlenberg, & Tsai, 2011).

The extra-clinic environment may facilitate the client-therapist relationship, and be an alternative when this is not happening in the classical therapy environment. It is therefore important to promote greater contact with the client in their "natural" environment, using empathy, increasing the likelihood and magnitude of the bond and making the therapeutic relationship (client-therapist) more genuine and effective, mediated by the use of natural reinforcers. Natural reinforcers are those most likely to happen in the organism's life, not requiring an apparatus of artificial contingency to promote selective consequences, unlikely to happen naturally in the relationships of the organism. The modeling process will happen moment by moment in a refined natural relationship (Ferster, Culbertson, & Perrot-Boren, 1979; Rosenfarb, 1992).

In summary, the work of the TC can be useful in several contexts such as: being a model of positive reinforcement; promoting both living and verbal experiences; assisting in the perception, description, reinforcement, and development of different behaviors of the patient; collecting data and information for the therapist; being an agent of resocialization; being with the client in aversive situations; promoting

psychosocial rehabilitation; and helping professionals in home admissions (Londero & Pacheco, 2006; Simões, 2005).

Therefore, the work of TC can meet many needs in several forms of intervention in behavioral analysis, enabling the implementation of social rights and an objective improvement in cases where the therapist–-client relationship in the clinic becomes insufficient. However, it is crucial for the TC to be aware of the importance of its role and also be properly guided in any actions and changes during the process.

After explaining the importance of the TC's work in general, we will present the specificity of it with clients who present the behavior of using and abusing alcohol and other drugs and who may receive the diagnosis of substance use disorder.

Therapeutic Companion in the Context of Substance Use

Nowadays substance dependence is considered a complex phenomenon, with several variables involved (Frade et al., 2013). Thus, there is no simple etiological explanation that can cover the problem's entire range of variables. In short, it is understood as a mental and behavioral disorder, of chronic condition, which may include other psychiatric comorbidities and which is included in diagnostic manuals such as the International Classification of Diseases (WHO, 2019) and the Diagnostic and Statistical Manual of Mental Disorders – DSM-5 (APA, 2014). Both manuals indicate not only the damage which is caused by the substances but also its consequences, such as abstinence.

For the client, it is important to know the nature of the problem, the effect of the substance on its body, and the social, family, financial, school, judicial, and affective consequences, among others. These aspects will be important for the analysis of the therapeutic treatment plan and the possibilities of proposing intra- and extra-office interventions.

The World Health Organization defines substance dependence as the "psychic and sometimes physical state resulting from the interaction between a living organism and a substance, characterized by changes in behavior and other reactions that will include the impulse to use the substance continuously or periodically for the purpose of experiencing its psychic effects and sometimes to avoid the discomfort of deprivation" (WHO, 2019, p 15). Following this definition, DSM-IV identified two different conditions, substance abuse and substance dependence, while DSM-5 unites these two categories into a continuum, now called substance use disorders (SUDs), and can be classified as mild, moderate, or severe depending on the number of criteria met.

SUDs are currently best described in DSM-5 as a problematic pattern of substance use, leading to clinically significant impairment or suffering, and is manifested by at least two of the following 11 criteria, which occur over a 12-month period: (1) Tolerance, manifested by either aspect: need for progressively greater amounts of the substance to achieve intoxication or the desired effect; sharp reduction of the effect with the continued use of the same amount of the substance. (2)

Abstinence syndrome, defined by any of the following aspects: specific abstinence syndrome for the substance; the same or a similar substance is consumed to relieve or avoid abstinence symptoms. (3) Persistent desire or failed efforts to reduce or control the use of the substance. (4) The substance is often consumed in larger amounts or for a longer period than intended. (5) Plenty of time is spent on activities necessary to obtain the substance, use it or to recover from its effects. (6) Recurring legal problems and risky behaviors related to substance use. (7) Recurrent use of the substance, resulting in failure to play important roles at work, school or at home. (8) Continuous use of the substance despite persistent or recurrent social and interpersonal problems caused or amplified by its effects. (9) Important social, professional or recreational activities are abandoned or reduced due to using the substance. (10) Recurrent use of the substance in situations where this represents a danger to physical safety. (11) The use of the substance is maintained despite the awareness of having a persistent or recurrent physical or psychological problem, which tends to be caused or exacerbated by its use (APA, 2014).

The Treatment

Considering the complexity of the intervention, it is important to work with a multidisciplinary team. Initially a clinical evaluation is recommended, both physical and laboratory, of the client's body conditions. It is advisable that the examination of the mental state be performed with the client out of the intoxicated state.

When dealing with a drug addict, it is important to identify all the drugs used and of each, the patterns of use, places and frequency, including whether it is an experimental, recreational, abusive use, and/or dependence; the amount used, the motivations, effects obtained, including feelings, and thoughts after using it.

Research at this stage should include the investigation of other psychiatric disorders in the client and its family members. With the data collected above, it is necessary to investigate the client's psychosocial history, as well as the variables which control the adherence to treatment. This information will favor the design of therapeutic treatment planning.

Several modalities of intervention may be considered, from hospitalization and likely sites for it, to outpatient care, which will depend on the severity of the case, such as how to manage detoxification and abstinence, if there is risk of overdose, *delirium tremens,* self-injury and suicide. We can also use psychoeducation for the client and his/her family to facilitate adherence, pharmacotherapy, and possible proposals for intervention from setting up therapy with individual, group, family psychotherapy, and including a support network with self-help groups and the participation of TCs.

The Relapse

In a treatment process of substance dependence, relapse is defined as the moment when the drug addict who is under treatment resumes using the drug, also resuming the dysfunctional behaviors and losing the sense of control over such use (Andrade and De Micheli, 2016). For most addicts, the chance of resuming substance use in an asymptomatic manner, without any physical, social, financial, or other forms of damage is very small. Therefore, preventing relapse is a common goal for all cases of substance dependence (De Micheli et al., 2016; Zanelatto, 2011).

Applied to clinical practice, relapse prevention involves, among other objectives, the identification and confrontation of high risk situations. According to Marlatt and Gordon, "a high-risk situation is broadly defined as any situation that poses a threat to an individual's sense of control (self-efficacy) and increases the risk of potential relapse" (1993, p. 68). Risk situations for relapse have their effect based on (a) elicitation of anticipatory responses and (b) the addict's difficulty in coping with the frustrations and pressures of interpersonal relationships because of the damage done to its social skills.

On the first effect, exposure to the drug or its related contexts elicits conditioned anticipatory responses, which may be a high-risk situation, mainly in the early stages of the abstinence period. The environmental and internal stimuli with the ability to elicit anticipatory responses are numerous, somewhat unpredictable, and often part of the addict's common routine. Some examples are physical environments, such as bars, offices, inside the car, some place in the house; sound stimuli, such as a specific music or musical rhythm; periods of the day, such as just after waking up, the evening, the end of the workday; finally, any stimulus or situation that was previously paired to the administration of the drug. Exposure to these situations represents a high risk for relapse because these compensatory responses are experienced as very aversive, and historically in the life of the addict they have been overcome through the use of the substance.

The second aspect is closely linked to the social skills of the addict (De Sá & Del Prette, 2014; Limberger, Trintin-Rodrigues, Hartmann, & Andretta, 2017). Relating this concept to substance dependence, it is noted that "social skills losses can contribute to drug use, as users use the drug as a maladaptive way of dealing with external pressures and interpersonal situations" (Limberger et al., 2017, p. 100). Considering this, problems in interpersonal relationships during the period of maintaining abstinence can be a situation of high risk for relapse, especially for those addicts who have a deficit in social skills. It is common in the clinical companion of addicts to observe relapses after family, love, or work environment disagreements. In addition, deficits in social skills can also make it difficult to refuse drug use through social pressure from colleagues and/or family members (Marlatt & Gordon, 1993). On this topic, contact with people who have been part of drug use situations in the past can be considered a risk situation if the addict undergoing treatment does not have the necessary skills to refuse the drug is offered.

The identification of risk situations is important as it allows the planning of effective coping strategies in these situations, besides allowing the development of a repertoire for managing the relapses, so that the addict can once again fulfill the personal goals and objectives established through abstinence or harm reduction. Planning the coping strategies is important first because it is impractical and irresponsible to avoid all contact with high-risk situations, because these occur in various contexts, including those related to important goals and objectives; and also because it is through successful coping that the individual develops his or her sense of self-efficacy and also the skills needed to resolve personal or interpersonal conflicts without the aid of the drug.

Possibilities and Functions of the Therapeutic Companion

In the treatment of addiction the TC is indicated to assist in home care, in the period after hospitalization, or in any phase of the treatment in which a more extensive follow-up is necessary for the implementation or maintenance of abstinence. In an essential way, the TC acts fulfilling three roles: (1) serving as a discriminatory stimulus for abstinence; (2) helping in the task of identifying high-risk situations for relapse; and (3) helping in the process of coping with high-risk situations. The division of these roles is purely didactic, and in practice there are no boundaries where one ends and the other begins. The three will be best described below, with indications and suggestions on possible interventions in each of them.

The TC as a Stimulus for Abstinence

The starting point for this function is to understand whether the environment in which the TC will act has historically been related to the addict's behavioral problems, including drug use–related behaviors. Considering this, it is important that the work and the presence of the TC in this environment indicates a context in which the probability of drug use is lower than without the TC, since in the addict's pretreatment history the probability of using was high.

This role is essential for the maintenance and justification of inserting the TC, and must be planned before the intervention begins. If the substance use opposite to what was proposed in the treatment is maintained with the presence of TC, the entire intervention will be impaired and must be suspended or reevaluated. With this in mind, the psychologist or professional responsible for the case can present the TC by saying: *He will accompany you for some time during your routine, as a way to help you adapt to the abstinence period, and help you remain faithful to the objectives and goals we have defined here. For this to happen, it is important that you follow our guidelines, and have the confidence to report any difficulties or bad feelings you are having to the TC*.

The word *trust* is a key point here. One of the initial and fundamental goals of TC is to develop a relationship of trust with the client, and to create conditions for the client to understand that his reports will not be punished and ignored. In the history of relationships, it is common for many addicts to be used to lying or distorting information about drug use, and it is important that this tendency doesn't repeat itself in the relationship with the TC. By developing a relationship of trust and based on the objectives of the treatment, the TC is able to effectively fulfill its role of facilitating abstinence, greatly enhancing the progress of the case.

A practical example of this function was observed by our team in one case. The client was in treatment with TCs for 1 month, and after the relevant activities were closed, the visits were suspended. A few days later the patient received the news that he would receive a new gift from a relative, which made him very happy and agitated. Knowing that the situation represented a high risk for relapse, as he was very agitated and anxious, the client contacted the team supervisor to ask if a TC could visit him and stay with him that day, as he knew that the TC's presence reduced the chances of a possible relapse. This event clearly demonstrates the importance of the TC as a stimulus for abstinence, as well as the importance of a relationship of trust, which allows the client to understand the need for this function, and to have the possibility of asking for help when necessary.

TC as an Aid in Identifying High-Risk Situations

As mentioned above, identifying high-risk situations is an essential objective in a treatment based on preventing relapse. In clinical or outpatient care, the only source of information that the professional has about high-risk situations is the client's report, which happens far from the situation itself. Although this report is important, and that the self-monitoring ability is promoted in these services, it is an important gain to be able to collect these reports in the presence of the high-risk situation. This is because observing the situation as it happens allows for more information about the context to be obtained, such as physical, social, and emotional states, and allows high-risk situations to be brought that would hardly be brought otherwise.

It is in this sense that the TC becomes a useful tool in identifying these situations, either by asking for the direct report from the client or by observing sudden changes in behavior that may be related to the relapse, such as becoming restless, agitated, silent, depressed or very excited. To stress this goal with the client, the TC can say something like, *I'm here to help you through this treatment phase, and it's important that we identify any situation or feelings that make you want to acquire or use the substance. So, when you see yourself wanting to use, or planning to use, I would like you to tell me so that we can understand together what is happening. Is that okay for you?*

By helping the client observing and identifying the feelings and thoughts involved in a specific high-risk situation, the TC makes it easier for these behaviors to be generalized to other situations in which the client had not yet closely observed

the signs of relapse. This can be done by asking for the report in an already known risk situation. For example, in a case where it is already known that the company office was a context previously related to drug use, especially at the end of the day, the TC, accompanying the client in this situation, may suggest: *Usually that's when your feelings and plans to use the drug started, so I imagine you're feeling similar things now. Can you see this causing an effect on your body and the way you're thinking now? I want you to pay attention and record that feeling because it's going to be important for you to notice it whenever it comes.* Later, when the CT receives a similar report from the client, it is important that together they assess which stimuli may be contributing to these feelings and thoughts, and also which planning the client is doing automatically.

The identification of risk situations by observing changes in the patient's behavior requires a greater experience with the case, as well as a well-established therapeutic relationship. By knowing the client's behavior, the TC is able to observe what the sudden changes in behavior are. A client may be agitated and excited because he has made the decision to use the drug and is already feeling the excitement that arises when he or she knows the substance will be administered in his body, or he may just be excited about something else unrelated to the drug; or a silent and restless client may be planning how he will get access to the substance, or he may just be reflective about some things in his life. The role of the CT is to create the conditions for the client to express what his feelings are, and to offer non-punitive listening for this report. It is important that the CT does not accuse the client of always thinking about drugs, because often this is not the case, and even if it is, a direct accusation will only produce lies or omissions, apart from damaging the relationship. An efficient and simple way to act in these moments is to say something like: *I noticed that you are different, a little quieter. Do you want to tell me what you're thinking, or why you're like this?*

Another source of observation is the very relationship between the client and the CT. Sometimes the client might seem a little disinterested in the relationship, or he or she may begin to omit or distort important information to the treatment. Again, it is important that, when noticing such situations, the TC avoids accusing or conflicting with the client. The right thing to do is to signal that you are there to help him/her with his/her treatment and with the difficulties of abstinence, and to reaffirm the mutual trust of the therapeutic relationship.

The TC in Coping with High-Risk Situations

Facing risk situations without relapse in order to develop alternative repertories and increase self-efficacy is the ultimate goal of the treatment. In a chronic case of dependence, high-risk situations will also present themselves in a chronic way. The coping occurs when, through this type of situation, the client does not use the drug, and also does not engage in other dysfunctional behaviors that may cause social harm.

The role of the TC at this time can be either to welcome reports of feelings in the face of the difficulty of the task, or to propose interventions in order to reduce physiological anxiety responses through breathing exercises, or to provide signs regarding possible verbal responses through an interpersonal conflict. In addition, it is part of the process of facing risk situations to be aware of the objectives and goals that justify the suffering and difficulty inherent to maintaining abstinence.

Another practical example of a case from our team shows the importance of the TC aiding in these coping situations. A client during companion for alcohol dependency forgot to tell his father that he would meet a TC after college, and that the two of them would go to a bar in town to meet some friends of the client. Suspicious, the father called the client, who was already with the TC and going to meet his friends, and upon hearing the story the father got angry, saying he did not believe his son had forgotten to tell him about the TC, and also that he was lying and that he would soon go back to drinking, and finished by telling him to come home immediately. Hurt by his father's speech, and disappointed to have to go home, the client confided to the OT: *I get very sad when they distrust me and mistreat me when I am trying to do right. It makes me want to go home and drink everything there, you know? So that he knows I'm sad*. Realizing that this was a risk situation, and that this kind of situation was common in the father–son relationship, the CT used the situation to validate the client's feelings, as well as to help him get through it without causing further harm. Given the situation, the CT told the client: *I understand that you are upset, I myself got upset that we couldn't go out today, and I can imagine how bad it must be if your father suspects everything you do. But if you relapse in a situation like this, it will only increase your father's distrust, and it will make it harder for you to resolve these situations healthily in the future. I suggest you go home, apologize for not warning him about it and rest. At another time, with both of you in a lighter mood, tell him how bad you feel with the accusations he makes. What do you think?* Later that same day, the client sent a message telling the CT that he had apologized to his father and that he was already going to bed, and took the opportunity to thank him for his help.

Final Considerations

Addiction to substances presents itself as a diagnosis of difficult and complex treatment (Yamauchi et al., 2019). The extent of the damage to the various areas of life, the chronicity of the problem, and the risks involved are serious challenges in the professional monitoring of the case. Considering these characteristics, a multidisciplinary and extensive treatment is indicated for a more effective intervention. Among the possibilities, the TC presents itself as an important tool in the adherence and maintenance of the treatment, favoring a less institutionalized follow-up and with greater contact with the real everyday environment of the patient.

For those who will act as TC in such cases, knowledge about the fundamentals of behavior and the functioning of substance dependence is fundamental for an

adequate and effective intervention. This knowledge, together with a planned and supervised intervention, provides elements for the TC to assist the patient in the process of installing and maintaining abstinence, resulting in a more productive and higher quality life.

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Chapter 18
Evaluation and Training of Social Skills in Alcohol an Other Drugs Users

Marcia Fortes Wagner, Margareth da Silva Oliveira, and Ilana Andretta

Introduction

Investigating the role of social skills in interpersonal relationships has been the goal of several studies, considering that by exhibiting socially skillful behaviors, individuals increase the probability of achieving healthier social interactions. This behavior can be considered a protective factor or risk for psychological difficulties, such as depressive disorders, anxiety, and substance use, among others.

This chapter seeks to establish a relationship between social skills and substance use disorders, as individuals who develop this condition may present instability in their interpersonal relationships, emotions, and behaviors, demonstrating impulsiveness and impairment in their quality of life. Based on the theoretical and practical assumptions in the field of social skills expanded to coping skills, it aims to contribute to a better understanding and treatment of people with this disorder, encouraging them to achieve satisfactory relationships, and minimize the harm ensuing from the use of psychoactive substances.

In this sense, it intends to present the social skills training and the social and coping skills training as therapeutic resources of choice for the treatment of individuals who use psychoactive substances. These interventions aim at the development of a behavioral and cognitive repertoire that supports the behavior of facing environment-generated stressful situations with a focus on problem solving, and abstinence maintenance.

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Social and Coping Skills

The classic concept of social skills or socially skilled behavior can be defined as a set of behaviors of an individual, that is, feelings, attitudes, desires, opinions, or rights, expressed accordingly to the situation, in relation to the others, and that can solve immediate problems, and minimize future problems (Caballo, 2007). They can also be linked to a wider universe of interpersonal relationships, being directly related to assertiveness, communication skills, problem solving, cooperation, among other fields related to social rituals (Del Prette & Del Prette, 2001).

Some conceptual aspects must be clarified here in order to broaden the scope of the therapeutic approach to social skills, distinguishing them from social competence. While social skills are characterized as classes of social behavior necessary for the effective management of social interactions, social competence refers to the effects of skills performance, considering the criteria of functionality that meet the individual's objectives and the demands of the situation and culture, besides involving respect for the rights and opinions of others (Caballo, 2014; Del Prette & Del Prette, 2017).

Based on the concept that social skills concern how to interact with others, a socially competent individual tends to have greater facility to adjust to unknown situations, thus being more effective, assertive, and skilled (Bolsoni-Silva, Loureiro, Rosa, & Oliveira, 2010). Therefore, they can acquire greater self-control of their behaviors (Bartholomeu, Nunes, & Machado, 2008).

In this sense, it is worth noting that social skills are not innate, and their acquisition can occur in interpersonal relationships throughout life, mainly through modeling in childhood (Del Prette & Del Prette, 2005). Modeling is understood as the act of learning a new behavior through observation of models, and such learning involves four stages. The first one is attention, in which the observation of behaviors occurs, from which the individual selects those behaviors to be imitated; the second one is retention, in which the memorization of the behavior and its consequences occurs, serving as an example for future interactions. The third stage is related to production, as a model behavior starts being replicated and improved every time it is emitted and motivated, which will determine if the individual will maintain or not the model behavior. Finally, the fourth stage is reinforcement. It can happen in different ways: externally, when the behavior will be reinforced by consequences produced by the environment, as a result of the imitated behavior; vicariously, when reinforcement exists only by observing people being reinforced when they emit a certain model behavior; and by self-reinforcement, when the subject's capacity to obtain external reinforcement is compared against that of the respective model (Aguiar, 1998; Bandura, 1979).

However, individuals who have never issued a certain skill in a specific context, who have not been reinforced or modeled, cannot implement it in their repertoire, thus presenting a deficit index for that skill. Similarly, someone who sporadically emits that skill has some functions in their repertoire, but does not do it easily and with motivation (Limberger, Trentin-Rodrigues, Hartmann, & Andretta, 2017).

Considering that losses in social functioning are associated with different medical conditions, literature has shown over the years a direct relationship between low social interaction index, poor repertoire of social skills, and conflicts in interpersonal relationships, worse quality of life, and psychological disorders (Bolsoni-Silva & Loureiro, 2017; Del Prette & Del Prette, 2002; Del Prette, Falcone, & Murta, 2013; Falcone, 2000). Among the clinical conditions that have been investigated, depressive and anxiety disorders have been the most frequent, as well as those related to the use of psychoactive substances (Aguiar, Mello, & Andretta, 2019; Botvin & Griffin, 2004; Scheier, Botvin, Diaz, & Griffin, 1999; Wagner & Oliveira, 2015).

The definition of substance use disorder, according to the Diagnostic and Statistical Manual of Mental Disorders, DSM-5 (American Psychiatric Association [APA], 2014), is linked to the use of substances in a maladaptive way, aggregating emotional, cognitive, and physiological symptoms. And psychoactive substances can be understood as those that produce changes in the central nervous system, perceptions, and consciousness, as well as in the emotional state (World Health Organization [WHO], 2004). Thus, the DSM-5 (APA, 2014) points out that there are classes of drugs that can result in disorders, namely, alcohol, caffeine, cannabis (or marijuana), hallucinogen, inhalants, opioids, sedatives, hypnotics and anxiolytics, stimulants, tobacco, and other unknown substances. When compulsively consumed, all of these activate a point in the brain responsible for the "reward," which will stimulate memory, thus reinforcing this behavior.

Thus, in this context of drug use, well-developed social skills can provide greater success in preventing risky situations, while a deficient repertoire of such skills may be associated with more dysfunctional behaviors. In the case of individuals seeking treatment to stop substance use, according to the DSM-5 (APA, 2014), the fundamental demand to be addressed is the craving or strong desire (or need) for using the drug. In this sense, presenting a satisfactory repertoire of social skills associated with the necessary coping skills assists in maintaining abstinence (Ball et al., 2007; Monti, Kadden, Rohsenow, Cooney, & Abrams, 2005).

It is important to highlight that social and coping skills are not synonymous, as Sá and Del Prette (2016) points out. The authors emphasize that coping skills are a broader construct, largely composed of social skills that can be defined as "classes of social behavior required to successfully complete a given social task" (Del Prette & Del Prette, 2001). In other words, coping skills refer to the cognitive repertoire used to face different environment-related stressful situations in order to solve a given activity in a resolutive manner (Del Prette & Del Prette, 2001; Monti et al., 2005; Rohsenow, Martin, & Monti, 2005).

Since they are considered a set of adaptive cognitive and behavioral strategies present in the individual's repertoire to be used at typical occasions of abstinence protection (Donovan, 2009), in psychotherapy with individuals who use substances, a broader approach can bring more benefits and be more effective. This broader approach refers not only to social skills, but especially to coping skills. According to Donovan (2009), individuals who wish to maintain abstinence from alcohol or other drugs commonly face some situations such as (1) pressure to use the

substance, going to places of drug consumption, and keeping contact with former fellow users; (2) desire to enjoy the advantages brought by drug use, such as belonging to a social group; (3) experiencing negative feelings, such as depression, loneliness, and boredom; and (4) moments of anger and frustration resulting from interpersonal conflicts. Therefore, to deal with these demands, the individual must develop a set of coping skills, thus reducing the risk of consuming alcohol or other drugs.

Evaluation of Social and Coping Skills

In order to offer a treatment with better results, it is essential to evaluate the repertoire of social and coping skills. This chapter describes the main instruments used in clinical practice and research, as well as some studies aimed at evaluating social and coping skills in adult population of substance users.

A classic instrument used in research to evaluate social skills is the Social Skills Inventory (IHS-Del-Prette), developed by Del Prette and Del Prette (2001), with the aim of characterizing social performance and interactions of individuals in different situations (work, school, family and daily life). It has a five-point Likert scale (1 - Never; 5 - Always), composed of 38 items and a 5-factor structure: Factor 1 – coping/self-assertion with risk; Factor 2 – self-assertion of positive affection; Factor 3 – conversation, and social resourcefulness; Factor 4 – self-exposure to strangers and new situations; and Factor 5 – self-control of aggressiveness. Results are construed based on a normative table, and ranks the general score of social skills, as well as factor scores in the following classifications: Very elaborate social skills repertoire; Good repertoire (above the median); Good repertoire (below the median); and Deficit in social skills, indicative for social skills training. It has $\alpha = 0.75$ in the total scale, indicating satisfactory internal consistency, and in the factors it varied from $\alpha = 0.96$ for the first factor to $\alpha = 0.74$ for the fifth factor, indicating a high degree of validity of the instrument.

To update the instrument, the authors carried out new validation studies, and published the Social Skills Inventory 2, known by the acronym IHS2-Del-Prette (Del Prette & Del Prette, 2018). The inventory aimed at characterizing social performance in different contexts (work, school, family, and daily life), based on the identification of the individual's available and missing resources. It continues to be an instrument of self-reporting, intended for adults from 18 to 59 years of age, maintaining the same number of 38 items and 5-factor structure, now named F1 – assertive conversation ($\alpha = 0.93$); F2 – affective-sexual approach ($\alpha = 0.77$); F3 – expression of positive feelings ($\alpha = 0{,}89$); F4 – self-control/coping ($\alpha = 0.84$); and F5 – social resourcefulness ($\alpha = 0.84$). In each of the items, the respondent should indicate the frequency with which he/she reacts in the manner indicated, on a five-point Likert scale, ranging from 0 = "never/rarely" to 4 = "always/when always." Internal consistency was satisfactory, with $\alpha = 0.94$.

The Social Skills Questionnaire (CHASO) was developed by Caballo, Salazar, and the Research Team CISO-A Spain (2017), and is available in Portuguese and Spanish. It consists of 40 items, on a five-point Likert-type scale, and options range from "very uncharacteristic of me" to "very characteristic of me." It is aimed at assessing the frequency of social skills in adults. Score is obtained by summing up the items, where higher scores indicate higher social skills. There are no studies that indicate cohort points or classification of scores, and total internal consistency is $\alpha = 0.88$ for the global evaluation of social skills (Caballo, Salazar, & CISO-A Research Team Spain, 2017). It has 10 dimensions, in which internal consistency reached averages that validate its application, as further described: H1: interact with strangers ($\alpha = 0.79$); H2: express positive feelings ($\alpha = 0.81$); H3: face criticism($\alpha = 0.78$); H4: interact with people who attract me ($\alpha = 0.90$); H5: keep calm in the face of embarrassing situations ($\alpha = 0.68$); H6: speak in public/interact with superiors ($\alpha = 0.80$); H7: deal with situations of exposure to ridicule ($\alpha = 0.65$); H8: defend one's own rights ($\alpha = 0.72$); H9: apologize ($\alpha = 0.81$); H10: refuse requests ($\alpha = 0.71$).

More specifically focused on the context of drugs, Sá, Olaz, and Del Prette (2017) built the Inventory of Anticipatory Coping Skills for Abstinence from Alcohol and Other Drugs (IDHEA-AD). The instrument is composed of a repertoire of anticipatory coping skills that presents a set of specific situations in relation to the use of substances, made up by 30 items on a four-point Likert-type scale (never, a few times, often, or always). It presents three factors: Factor 1 – assertiveness and planning for high-risk situations for substance use; Factor 2 – emotional expression of positive feelings for abstinence maintenance; and Factor 3 – emotional self-control in adverse situations. Results are construed from normative tables, and scores are ranked in repertories: highly elaborated, good (above the median), lower average, and below lower average (below the median). The internal consistency of the instrument presents values of $\alpha = 0.77$ and $\alpha = 0.89$.

Regarding alcohol dependence, the Coping Behaviours Inventory (CBI) is a 36-item instrument with experiences of alcohol users in abstinence, which evaluates behaviors and thoughts used to prevent, avoid, or control the resumption of drinking (Litman, Stapleton, Oppenheim, & Peleg, 1983). It has been proposed to the British alcohol user population, and adapted in Spain, with high reliability and construction validity (Gonzáles & Suárez, 2002). The translation, cross-cultural adaptation, and validation for the Brazilian population were carried out by Constant et al. (2014). It has a structure of four factors: I – positive thinking; II – negative thinking; III – avoidance/distraction; IV – social support. Lower scores reflect the more frequent use of strategies. The concordance among judges showed a mean kappa index equal to 0.66, with a substantial level, indicating that the scale is adequate to investigate the coping strategies for alcohol users.

Several Brazilian investigations have been developed in recent years with a focus on the evaluation of social skills and coping skills in substance users, and some will be highlighted here. Among them, the study by Wagner and Oliveira (2009) applied the Social Skills Inventory (Del Prette & Del Prette, 2001) in 98 adolescents, and identified the presence of a greater deficient repertoire of social skills in marijuana

users compared to non-users, with more losses in Factor 4 (self-exposure to unknown or new situations) and Factor 5 (self-control of aggressiveness in aversive situations). This led to the conclusion that marijuana users could exhibit greater inability to deal with feelings and reactions aroused in social situations, propitiating the search for the substance as non-assertive behavior to cope with those difficulties.

Three empirical studies with adult male crack users under treatment in therapeutic communities in southern Brazil were reported by Schneider (2015), using the Social Skills Inventory (Del Prette & Del Prette, 2001). The objectives were to describe the social skills of crack users, and verify associations with sociodemographic characteristics and substance consumption pattern (Schneider & Andretta, 2017a); to compare the social skills of crack users and non-users to verify the deficient repertoire in the clinical population (Schneider & Andretta, 2017b); and to evaluate the predictive relationship of social skills and sociodemographic characteristics on crack use disorder (Schneider & Andretta, 2017c). The first study by Schneider (2015) evaluated 65 crack users under treatment (32.2 years, SD = 7.58). The findings revealed the association between deficits in social skills of "self-control of aggressiveness in aversive situations" and concomitant use of alcohol; having started using crack at a young age; having stolen and/or robbed; and having a parent or sibling using substances. In addition, being less skilled in "conversation and social resourcefulness" was associated with being younger; and having greater deficits in "coping with risk" was related to participants making daily use of crack, and belonging to lower economic class. Lower economic class was also associated with deficits in "self-exposure to unknown or new situations." These results showed that characteristics commonly observed in the population using crack are related to losses in social behavior, highlighting the vulnerabilities that can be factors of risk in the resocialization phase and that deserve more attention in interventions.

In the second study by Schneider (2015) with 48 crack users under treatment (33.3 years old; SD = 8.3), and 48 non-substance users (33.6 years old; SD = 9.5), lower skills in "coping with risk" were identified among non-substance users. However, significant losses in social skills among crack users, when compared to non-users, were found in relation to "conversation and social resourcefulness," and "self-control of aggressiveness to aversive situations."

Schneider's third investigation (2015) with 65 male crack users (32.2 years old; SD = 7.6) and 48 male non-users (33.6 years old; SD = 9.5 years) pointed out that higher skills in "coping with risk" (OR = 8.6), and lower skills in "conversation and social resourcefulness" (OR = −0.19) appeared as risk factors to belonging to the group of crack users. It was also found that having children (OR = 4.9), and being single (OR = 9.6), or being separated/divorced (OR = 7.3) were variables that showed a relation with the increased probability of crack use.

New studies with 61 crack users under treatment at the Center for Alcohol and Drugs Psychosocial Support (CAPS AD III) in South Maranhão were conducted by Aguiar (2018), describing the profile of the sample, their social and coping skills, as well as their perception about social support. The sample was composed of 93.4% (n = 57) male and 6.6% (n = 4) female individuals, with the mean age of 34.1 years (SD = 8.49). The Social Skills Inventory (Del Prette & Del Prette, 2001, 2016), the

Anticipatory Coping Skills Inventory for Abstinence from Alcohol and Other Drugs (Sá et al., 2017), and the Social Support Perception Scale (Cardoso & Baptista, 2014) were used. The findings matched those found in the literature, with male predominance (Botti, Machado, & Tameirão, 2014), and indicated social vulnerability as a potential factor for the onset of drug use (Bastos & Bertoni, 2014). The studies found losses in social skills, coping skills, and perceived social support (Aguiar et al., 2019), as well as association between social and coping skills and the crack cocaine users' perception of social support. These indicate associations between the dimension of social skills of self-control of aggressiveness and the dimensions of coping skills of assertiveness and planning ($r_s = 0.37$; $p = 0.01$), and the dimension of coping skills of emotional self-control and the dimension of affectivity ($r_s = 0.26$; $p = 0.05$). The total for social skills dimensions correlated with the dimension of affection ($r_s = 0.22$; $p = 0.05$), and the total of the dimensions of social support perception ($r_s = 0.25$; $p = 0.05$). Losses in social skills of crack users were identified in the studies by Horta et al. (2016), Sá and Del Prette (2014), Schneider, Limberger, and Andretta (2016), and Schneider and Andretta (2017a, 2017b), who also found losses in social skills and coping skills of the population with crack dependence.

Studies with male crack users indicated the need for support in relation to social skills, mainly on "conversation and social resourcefulness," and on "self-control of aggressiveness in aversive situations" (Schneider, 2015). The first set of skills is related to behaviors such as holding and closing conversations, asking for favors, denying abusive requests, and addressing authority figures. These actions are relevant to relationships in social and professional contexts, and lacking them can be an important risk factor for crack use disorder, suggesting the importance of including training on those skills in primary and secondary prevention intervention programs. Low levels of skills in relation to "self-control of aggressiveness in aversive situations" can be related to high rates of impulsiveness and difficulties in functionally dealing with situations involving negative emotions. It is essential to understand the association between the high skills of "coping with risk" and the use of crack, since this factor of the Social Skills Inventory (Del Prette & Del Prette, 2001) evaluates if the individual develops actions to defend their opinions and rights, without evaluating if these occur through assertive or aggressive behaviors (Bolsoni-Silva & Carrara, 2010; Del Prette & Del Prette, 2002).

Unlike the literature that largely focuses on social skills involving the male gender, Limberger's study (2015) investigated a sample of 62 women hospitalized in southern Brazil for the use of crack, and developed two studies. The first one focused on the description of social skills factors in women, as well as on the associations between skills and their characteristics, based on the Mini International Neuropsychiatric Interview (MINI) (Sheehan et al., 1998), the Social Skills Inventory (Del Prette & Del Prette, 2001), the Wechsler Intelligence Scale Cognitive Screening for Adults (WAIS-III) (Nascimento, 2004), and the Structured Clinical Interview for DSM Disorders (SCID-II) (First, Gibbon, Spitzer, & Williams, 1997). It found deficits in social skills of conversation and social resourcefulness; self-exposure to unknown and new situations, and self-control of aggressiveness; and

that age correlates with total score. Moreover, having user fellows and drug trafficking were associated with deficits in social skills. The second article sought to understand the development of social skills in women's life trajectory. It used the MINI, Social Skills Inventory, WAIS-III Cognitive Screening, and SCID-II, as well as a clinical interview on life trajectory and social skills. In the cases analyzed, difficulties in the use of social skills since childhood were found, and comorbidities may have hindered the use of such skills, suggesting the need for interventions on hospitalization to develop the social skills of this population (Limberger, 2015).

Recent North American studies focusing on coping skills were developed by Kiluk et al. (2017) and Roos and Witkiewitz (2016). In the first, Kiluk et al. (2017) evaluated the quality of coping skills as mediators of abstinence outcomes, after a computerized cognitive-behavioral therapy program for cocaine users or dependents. The study approached 101 users, 57% of which female, and the mean age was 43.6 years (SD = 8.50). Participants were assigned either to usual treatment or to a computerized program. The results indicated that both improved the quality of coping skills. It also found results of association between coping and abstinence. These results corroborated the findings by Roos and Witkiewitz (2016), when investigating the coping skills used by 2688 individuals with Alcohol Use Disorder, and their relationship with treatment. The survey found that the broader the coping strategy, the greater the probability of improvement in treatment, readiness for change, and severity of dependence and initial use of alcohol. Thus, we could state that subjects with greater repertoire of coping skills are more prepared for situations of risk of relapse, because they have a wider range of strategies to meet the demands of high-risk situations, which also reinforces their self-efficacy.

A study carried out with the Italian population showed that individuals with alcohol use disorder used more avoidant coping styles, in order to withdraw from the physical experience or from their own thoughts, through denial and use of substance, when compared to non-users. In addition, the authors found that women employed more healthy strategies to face stress and solve problems (Cerea, Bottesi, Grisham, Vieno, & Ghisi, 2017), concluding that patients referred to problems related to alcohol use primarily rely on unadaptive coping, and have insufficient adaptive coping skills. These findings may help in planning the treatment for alcohol use disorders, and lead to the development of treatment programs aimed at specific coping difficulties of patients.

Training in Social and Coping Skills

Social skills training is one of the ways employed to develop social skills. It is an experiential intervention that aims to increase the frequency of assertive behaviors, teaching a new repertoire of responses to the individual (Caballo, 2003; del Barco, 2006), and assisting the promotion of skills in critical life occasions, such as situations of risk of consumption of psychoactive substances (Caballo, 2007). Furthermore, it seeks to improve and increase the frequency of social skills already

learned, but that have deficient repertoire, as well as to teach new skills, and reducing or extinguish non-assertive behaviors that damage the individuals' social competences (Del Prette & Del Prette, 2011).

As an intervention of choice in the treatment of substance use disorder, the social skills training can be used in both individual and group formats, according to Caballo (2003). The election of one or the other model depends on the place and the resources available, since not always there is a sufficient number of individuals to assemble a group. The group model, in turn, may be convenient in terms of saving the therapist's time and efforts. The group entails some advantages, as it provides an established social situation, in which the individual can practice with other people the skills learned. Moreover, it sets a climate of mutual support in a real situation, rather than in a simulated situation as happens in the individual format.

Considering the losses that substance users present in specific classes of social skills, several studies have pointed to social skills training as an intervention that can bring about a wide range of benefits (Del Prette, Ferreira, Dias, & Del Prette, 2015; Hulka et al., 2014; Limberger & Andretta, 2017; Petersen et al., 2007; Wagner & Oliveira, 2015). Some Brazilian studies describe training in social skills with a focus on substance dependence coping, and most of them use session programs, such as those developed by Zanelatto (2013), Sakiyama, Ribeiro, and Padin (2012), Zanelatto and Sakiyama (2011), Bordin, Zanelatto, Figlie, and Laranjeira (2010), and Silva and Serra (2004). Likewise, international research reports interventions with skill training sessions, especially with a sample of alcohol and marijuana addicts, in which the final focus was on abstinence (Grawe, Hagen, Espeland, & Mueser, 2007; Litt, Kadden, & Kabela-Cormier, 2009; Litt, Kadden, Kabela-Cormier, & Petry, 2008; Witkiewitz, Donovan, & Hartzler, 2012).

The study by Limberger and Andretta (2018) described the experience in conducting social skills training groups, assessing the effects on the quality of life and social skills of users of substances under treatment in post-intervention conditions (one week after the training), and follow-up (one month after the training). The intervention was developed based on systematic literature reviews, and a pilot study (Limberger & Andretta, 2018), pointing out the potential of group activities. The results pointed out an increase in both social skills and quality of life of the participants, such as defense of rights, coping, and maintaining tranquility in the face of criticism with medium size effect on the ability of denying requests, refusing the drug, and quality of life (psychological domain). Alcohol users scored lower in some social skills and quality of life when compared to crack users, highlighting the importance of the social skills training in this context.

Coelho (2016) tested a training protocol with eight meetings in a sample of 27 users of multiple substances, but with predominance of crack, in inpatient treatment. The repertoire of social skills, anticipatory coping skills, and the self-efficacy of crack users before, and immediately after the end of the training, and with 3-month follow-up period was evaluated. The findings showed that the participants of the social and coping skills training scored higher in self-efficacy toward maintaining abstinence after the intervention. The scores of the total Anticipatory Coping Skills Inventory for Abstinence of Alcohol and Other Drugs (Sá et al., 2017) and its

factors 1 – "assertiveness and planning for high risk situations and substance consumption" and 2 – "emotional expression of positive feelings to maintain abstinence" were lower than the pre-intervention average, as below-average repertoire soon after the end of the group meetings. The evaluation of the three-month follow-up found an above-average repertoire was found. For the scores of Factor 3 – "emotional self-control in adverse situations," participants presented a good repertoire of coping skills in the initial evaluation, moving on to an elaborate repertoire in the post-training of social and coping skills, and thus remaining in the follow-up (Coelho, 2016).

The themes developed in the eight-session protocol of the Social and Coping Skills Training Program by Coelho (2016) were as follows: (1) concepts of social and coping skills; (2) investigation of coping skills in situations of risk of crack consumption; (3) process skills: performance in situations of experiences, paralinguist, and non-verbal components in conversation; (4) verbal communication, and empathic social skills, such as initiating and maintaining conversation, free information, self-revelation, asking and expressing positive opinions and feelings, praise, acknowledgment, and use of empathy; (5) passive, aggressive, and assertive communication styles; (6) feedback, management of criticism and requests for behavior changes, control of impulsiveness; drug supply refusal skills; (7) strategies to cope with risky situations; and (8) theme review, final feedback, and enhanced effectiveness.

Sá's (2013) conclusions are in line with the protocols for social skills training, and coping and social skills training described here, as it highlights the importance of teaching coping skills for abstinence, and that knowing the right moment to teach them is crucial. It emphasizes that, right after starting the treatment, the individual should be taught assertiveness skills for refusal, plan how to act in risky situations, in addition to emotional self-control, and express positive feelings. Thus, the social and coping skills training can help individuals to sustain abstinence, and not allow the acquired behavioral repertoire to be reduced.

Final Considerations

This chapter aimed to contribute to scientific knowledge, understanding the importance of social and coping skills in substance use disorder. It reviewed some surveys; and even if there are still few publications, there is a growing production of consistent scientific knowledge in the area. Studies indicate that the field of social and coping skills should be further investigated in substance users, and that interventions aimed at developing such skills can contribute to better addressing problems related to drug use and abstinence maintenance.

Considering that evaluation and treatment are complementary areas, it is worth mentioning the need for prior evaluation of subjects before planning effective social and coping skills training programs. Therefore, more studies investigating social and coping skills training in the prevention and treatment of harmful use and

substance dependence should be carried out. These studies should start by identifying deficient repertoires of each individual's specific skills and, next, plan the intervention procedures, with detailed organization of each session, pursuing greater effectiveness, according to the behavioral dimensions demanding further improvement.

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Chapter 19
Contingency Management as Intervention for Substance Abuse

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Introduction

Contingency management (CM) is a behavioral intervention with solid evidence of effectiveness in the treatment of substance use disorders (SUD). The literature demonstrates the effectiveness of this intervention in disorders involving different substances – such as cocaine, alcohol, and tobacco – among a diverse population – such as homeless people, adolescents, people with severe mental disorders, and pregnant or postpartum women (Higgins, Silverman, & Heil, 2008). In addition, CM presents positive results for different types of outcomes, such as promotion of continued abstinence (e.g., Petry, Martin, Cooney, & Kranzler, 2000), adherence to pharmacological treatment (Rosen et al., 2007), and retention in treatment (Ledgerwood, Alessi, Hanson, Godley, & Petry, 2008).

The list of evidence-based treatments from the Society of Clinical Psychology (Division 12) of the American Psychological Association (https://www.div12.org/treatments/) includes CM as the only psychosocial treatment with evidence of efficacy for cocaine use disorder, with strong evidence of efficacy in the treatment of multiple substance use disorders and moderate evidence for alcohol use disorder. The meta-analysis of Dutra et al. (2008) also indicated CM as the most effective psychosocial treatment for SUD. In a more recent meta-analysis of randomized clinical trials (RCT) comparing any structured psychosocial intervention with a control intervention (another psychosocial intervention or the usual treatment) to evaluate its efficacy and acceptance in the treatment of stimulant use disorders (cocaine, amphetamine, or methamphetamine), De Crescenzo et al. (2018) found

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that CM and the community reinforcement approach (another behavioral intervention) were the most effective interventions.

Positive results regarding CM led the United States' National Institute on Drug Abuse (NIDA, 1998) to publish a therapeutic manual detailing how to implement CM as part of clinical treatment for cocaine. In the same direction, in 2007, the United Kingdom's National Institute for Health and Clinical Excellence (NICE) recommended that the National Substance Abuse Treatment Agency introduce CM to reduce the use of illicit drugs and promote involvement in addiction treatment (Pilling, Strang, & Gerada, 2007).

In general terms, as presented by Petry (2011), CM aims to change the environment of the individual to increase responses that are alternative to or incompatible with substance use. This is done by frequently and objectively monitoring the target behavior and immediately and abundantly reinforcing the emission of this behavior. In most CM studies, the target behavior has been objective verification of abstinence, monitored with urine or breathalyzer tests. These tests objectively demonstrate that there has been no recent consumption of substances and that, therefore, the individual has emitted the targeted response. In general, the arranged consequences for the target behavior are tangible generalized conditioned reinforcers (e.g., money, vouchers for products or services) presented in increasing magnitude as the target behavior is presented for longer periods of time. CM is an easily implemented intervention and has been applied in adjunction to several other interventions (e.g., motivational interview, community reinforcement approach, and cognitive-behavioral therapy).

The apparent simplicity of CM can conceal its ability to promote large changes in many people's lives. A case reported by Petry (2011, pp. 4–5) illustrates the impact of this intervention. A participant in Petry's first project on CM (Petry et al., 2000) was a man with alcohol use disorder who was well known by outpatient treatment staff, but who had never been able to attend treatment service for more than a week due to recurrent relapses. With CM, he remained in treatment and abstinent during all the 2 months of the intervention. Years after this treatment ended, a staff member ran into him at a community event, to which he had taken his grandson. The patient reported not using alcohol for years and attributed his abstinence to a tradition that he began during his CM treatment – spending every Saturday with his grandson. Cases like this and research evaluating CM demonstrate the impact of this intervention and justify its prominent position as an evidence-based practice.

The objective of this chapter is to present an overview of CM, starting with its theoretical, empirical, and practical principles, followed by a brief history of its development and application in Brazil, to finally illustrate its application in a clinical setting case.

Theoretical, Empirical, and Practical Principles of Contingency Management

CM is based on the process of operant conditioning, first described by B. F. Skinner, and in findings from behavioral pharmacology (Higgins & Petry, 1999). Classical studies with several species have shown how the consumption of substances commonly abused by humans reinforce new and complex behaviors that gives access to these substances (Higgins & Petry, 1999). After some exposure, the effects of these substances can become so strong that animals will give up access to primary reinforcers, such as water and food, in order to use these substances (Aigner & Balster, 1978; Griffiths, Bigelow, & Henningfield, 1980; Higgins & Petry, 1999). Studies have also shown how these substances can be powerful reinforcers for humans (Hart, 2014; Hart, Ward, Haney, Foltin, & Fischman, 2001). These findings are important because they show that the behavior of consuming (or self-administering) substances is a learned operant behavior under strong control by the unconditioned reinforcing effects of use (Cahoon & Crosby, 1972; Higgins & Petry, 1999).

Studies of behavioral pharmacology also show that, like any other operant behavior, the consumption of substances tends to be influenced by the presence of contingencies not directly related to this consumption. The presence of aversive stimuli, such as shocks, aggression, social exclusion, or reduced availability of food, liquids, or exercise, increases the frequency of substance use among laboratory animals (e.g., Goeders & Guerin, 1994; Wolffgramm & Heyne, 1995). In contrast, when animals are exposed to alternative sources of reinforcement not related to substance use (e.g., access to sexual partner, nest-building material, appetizing food), the frequency of consumption decreases significantly (Higgins, 1996, 1997).

These findings demonstrate that, despite the aversive consequences related to the problematic use of a given substance, its use is maintained by the reinforcing consequences of the substance as well as by the lack of other reinforcers contingent to alternative and/or incompatible responses (Higgins, Heil, & Lussier, 2004). In this direction, *the application of CM in the treatment of SUD consists in changing the current environment of the user in order to increase the presence of these reinforcers contingent to responses incompatible with the use of the substance*. In general, this is done by objectively monitoring the use of the substance and reinforcing the production of evidence that the use did not occur – and that, therefore, the individual was emitting responses incompatible with substance use. Reinforcements contingent to abstinence, thus, is the most common procedure in studies with CM. This comes from the fact that substance use is the only problematic behavior that is essential to the SUD diagnostic class – that is, if the user stops using the substance of abuse, they do not attend the diagnostic criteria of SUD. Moreover, abstinence is an outcome more easily evaluated in an objective manner, through physiological measures, favoring the reliability of the results obtained (Petry, 2011). However, *although abstinence is the goal prioritized in most studies, it is also common the contingent reinforcement of treatment adherence, participation in treatment-related activities, among others* (Petry, 2011).

The most commonly used reinforcers in CM are vouchers exchangeable for retail goods and services, cash, and the opportunity to win prizes of different magnitudes. In some contexts, clinical privileges are also provided, such as methadone doses for home use or access to housing. Each of these reinforcers is effective in reducing drug use probably because similar behavioral principles are employed in programming how they are presented, including the contingent nature of the reinforcer (Stitzer & Petry, 2006). Thus, carefully deciding *the criteria for presenting reinforcers (*i.e.*, reinforcement schedule) is critical to effective implementation of CM*.

Criteria for Presenting Reinforcers

Decisions about the reinforcement used in CM are fundamental for the proper implementation of this intervention. In this sense, *the reinforcer should: (1) be of the highest magnitude possible; (2) be presented as immediately as possible; (3) be presented initially independent of the target behavior (*i.e.*,* priming*); (4) have its value successively increased as the target behavior is repeatedly emitted; and, (5) after a relapse, be withheld and have its value reset to the initial value* (Petry, 2011).

The initial provision of the reinforcer without the user having presented the target behavior aims to ensure some experience with the stimulus, enhancing its function as a reinforcer capable of controlling the behavior (Petry, 2011). Related to that, one should use an escalating reinforcement schedule; that is, as the user reaches longer periods of abstinence, for example, the reinforcer value increases to generate permanent changes in the behavior. This is important because it is more difficult for the user to maintain a prolonged period of abstinence than a short period – that is, the response cost is higher – and because a longer period of abstinence is related to better medium- and long-term outcomes (Miguel et al., 2019). If a clinically undesired behavior is emitted (relapse), withholding reinforcement and resetting its magnitude function should function as negative punishment, aiming to decrease its frequency.

Regarding the variables magnitude and immediacy, it is known that (1) the greater the magnitude of the reinforcement, the greater its control over behavior, and (2) learning occurs more effectively when the emission of the target behavior is followed by an immediate consequence. A practical example that demonstrates the importance given to these findings in the implementation of CM is that the most widely used reinforcement schedule is escalating continuous reinforcement schedule (Lussier, Heil, Mongeon, Badger, & Higgins, 2006). In this type of procedure, participants are reinforced immediately after the target behavior is emitted and the magnitude of the reinforcement gradually increases as the participant remains abstinent.

The prevalence of this procedure in CM studies is also related to the strong association between impulsivity and substance use (Matta, Gonçalves, & Bizarro, 2014; Mellis, Woodford, Stein, & Bickel, 2017). Impulsivity has been studied based on the concept of delay discounting, which considers that the current value of a

reinforcer decreases according to the delay to its delivery (Kirby & Petry, 2004). This behavior pattern is especially present in SUD (Kirby, Petry, & Bickel, 1999). People with this diagnosis are less sensitive to long-term consequences; therefore, the immediate presentation of the reinforcer after the target behavior and the gradual increase in its value as the individual remains abstinent are paramount. Meta-analysis showed that, in fact, the reinforcer immediacy is linked to larger effect sizes in CM studies (Griffith, Rowan-Szal, Roark, & Simpson, 2000; Lussier et al., 2006).

Historical Overview of Contingency Management Development

The previous section presented general principles and characteristics of CM. This section briefly describes its historical development, some seminal research, and the most recent versions of CM.

Initial CM studies employed reinforcers already available in the daily lives of participants. The first RCT to investigate CM effectiveness in treating SUD, for example, employed access to social welfare services to reduce the alcohol use of 20 people with a history of drunken imprisonment (Miller, 1975). Participants randomly assigned to the control group had unrestricted access to services such as provision of shelter and clothing; those assigned to the experimental group were exposed to CM and had access to the services only if they proved abstinence. In pre- and post-treatment comparison, the experimental group showed a statistically significant decrease in the number of arrests for drunkenness and alcohol consumption, which was not seen in the control group. Thus, Miller (1975) demonstrated that providing access to services, such as shelter, meals, etc., contingent on abstinence is a reinforcer strong enough to compete with alcohol use. In addition, he suggested that the use of reinforcers contingent to alcohol abstinence could reduce problems associated with alcohol consumption for individuals diagnosed with SUD.

In the same direction, Liebson, Tommasello, and Bigelow (1978) studied 25 heroin users who were about to be (or had been) discharged from a methadone treatment clinic due to behavioral problems related to alcohol abuse. Methadone is used in the treatment of heroin use disorder as an opioid substitute. Alcohol use disorder as an associated comorbidity, however, is considered a predictor of failure in methadone treatment. For these cases, the administration of another drug considered effective in promoting abstinence from alcohol, disulfiram, is indicated. In this study, the CM intervention consisted of offering methadone treatment contingent to the daily use of disulfiram, while in the control group the methadone treatment was received regardless of whether or not disulfiram was used. The results showed that 85% of the patients in the CM group completed the 6 months of treatment without any severe intoxication, compared to 10% in the control group. The percentage of days consuming alcohol was 2% in the CM group and 21% in the control group (Liebson et al., 1978).

Both studies have shown that manipulating the environment to offer contingent services to a target behavior related to the pattern of abuse is effective in treating individuals with alcohol use disorders. However, despite the positive results, few studies with CM were conducted in the following years. The scenario changed only in the early 1990s with studies conducted by Higgins et al. (1991), using a new version of the treatment: *voucher-based contingency management* (VBCM), which integrates token economy to the outpatient treatment of SUD (Petry, 2011). The high methodological rigor of the studies and the effectiveness presented by this version of CM encouraged research using this intervention (Higgins et al., 2004).

VBCM provides points that are worth a specific amount of money every time the patient submits a negative urine sample for the substance of abuse. The points are recorded in vouchers so that the patient does not receive the money directly. Patients can spend the vouchers immediately or keep them to exchange later for more valuable items. They need only ask the clinic staff to purchase any item or service they wish, once they have accumulated a sufficient amount. A key component of the program is to increase the number of points at each consecutive presentation of the target behavior (e.g., negative urine sample); whenever the behavior does not occur, the patient receives nothing at that time, and in the next session, if the sample is negative, the points earned return to their initial value (Petry, 2011).

In the first study using this version of CM, Higgins et al. (1991) examined the efficacy of VBCM in outpatient treatment for cocaine use disorder. Participants were randomly assigned to a control group (12-step standard treatment) and an experimental group (VBCM plus community reinforcement approach). Treatment lasted 12 weeks, and both groups were encouraged to perform urine tests three times a week (Mondays, Wednesdays, and Fridays). The intervention consisted of immediately giving the participants a voucher of US$2.50 when presenting the first negative test. With each consecutive negative test, the amount increased by US$1.25. For every three consecutive negative tests, the participant earned a US$10 bonus. However, if the patient turned in a positive test, he or she would not earn anything that day, and on the next date, if the test was negative, the value of the voucher would return to the initial US$2.50. These vouchers could be exchanged for goods in the community.

Higgins et al. (1991) found that 85% of the participants in the experimental group remained in treatment during the 12 weeks, compared to 33% of those in the control group. In addition, 46% of experimental group participants remained abstinent for at least 8 weeks, compared to none in the control group. In addition to the efficacy demonstrated in this study, subsequent experiments demonstrated that VBCM is an essential component for obtaining positive clinical outcomes (Higgins et al., 1994; Higgins et al., 1995).

Years later, another version of CM was developed: *prize-based contingency management* (PBCM) (Petry et al., 2000). *Here, instead of receiving vouchers, patients are given the chance to withdraw tickets from a bowl and win prizes, which vary between low- and high-value items. Not all tickets result in prizes;* some contain only a message (e.g., “good job”). This system is less costly than the previous one as only a part of target behaviors is followed by tangible reinforcers (a prize)

(Petry, 2011). The first study using this approach was by Petry et al. (2000), with 42 patients with alcohol use disorders randomly assigned between those who only received usual care (control group) and those who received usual care plus PBCM (experimental group). In the PBCM group, each time the participant tested negative for alcohol use, he or she withdrew a ticket in the bowl. When he or she completed five consecutive negative tests (corresponding to 1 week), he or she received a bonus of five more withdrawals. As a result, 84% of the participants in the PBCM group continued treatment during the entire 8-week period, compared to 22% in the control group. In addition, no participants in the PBCM group tested positive for alcohol use compared to 13% in the control group. PBCM was also employed with heavy stimulant users in the first studies conducted by the NIDA Clinical Trials Network with very promising results (Peirce et al., 2006; Petry et al., 2005).

Contingency Management in Community Settings

Recently, there has been concern about the dissemination of CM in community treatment settings. CM adoption in these contexts has been limited by factors such as: (1) lack of staff CM training, (2) philosophical and/or political barriers, and (3) cost of implementation (Higgins et al., 2008). The development and distribution of training manuals and guidelines for the use of CM (e.g., Petry, 2011) have contributed to providing information and training for practitioners, as well as overcoming the influence of philosophical and/or political barriers thus increasing the acceptability of this intervention (Rash, DePhilippis, McKay, Drapkin, & Petry, 2013).

However, costs are still the biggest obstacle to CM implementation in community treatment services. Despite the demonstrated effectiveness of VBCM, for example, a major disadvantage of this intervention is its administration costs. PBCM is an alternative to address this problem, as the intermittent reinforcement schedule used in this procedure produces high rates of desired behavior at reduced costs (Higgins et al., 2008).

Other strategies designed to reduce costs are the use of naturally occurring incentives (e.g., clinical privileges contingent on target behavior) and the use of items donated by the community. Donations may be encouraged through community incentive solicitation campaigns. In addition to cost reduction, an advantage of this strategy is the community involvement in supporting the treatment, configuring itself as a support network for the user (Higgins et al., 2008).

Contingency Management in Brazil

In Brazil, unfortunately, CM is still known only by very few and is practically not used in SUD treatment contexts. The first CM Brazilian study was an RCT evaluating the effectiveness of VBCM in the treatment of crack use disorder recently conducted by Miguel et al. (2016). The intervention lasted 12 weeks and was performed at the Vila Maria Specialized Medical Outpatient Clinic for Alcohol and Drug Treatment (AME-Vila Maria) in São Paulo, with 65 high-social-vulnerability crack users – most of them unemployed (83.1%) and who had already presented crack-related risk behaviors, such as sleeping on the street (64.6%) and attending "Crackland", a downtown open-air crack use region (89.2%). Thirty-two participants were allocated to the control group, and 33 to the experimental group. In the control group, participants received the standard treatment offered by AME-Vila Maria, and in the experimental group, they received the same treatment associated with VBCM.

Participants from both groups were encouraged to submit urine samples three times a week. In the CM group, the procedure was to reinforce the behavior of staying abstinent. Thus, after the first negative urine test for crack/cocaine, the participant immediately received R$5 vouchers. This value increased by R$2 for each consecutive negative test, until reaching the maximum value of R$15. If the participant presented all the three negative tests in a week, he or she also received a R$20 bonus. To encourage abstinence from alcohol, an extra R$2 was given when, along with the negative test for crack/cocaine, the participant also turned in a negative sample in the breathalyzer. In addition, an extra R$10 bonus was given when all three weekly tests submitted were negative for crack/cocaine, alcohol, and marijuana. When the participant was absent, refused to take the tests, or left a positive sample for crack/cocaine, they did not receive any vouchers that day and had their reinforcement schedule reset to R$5. If the participant was present at all the meetings and presented all the negative tests, they received a total of R$942 in vouchers over the 12 weeks of treatment.

The results of Miguel et al. (2016) demonstrated that VBCM treatment was effective in reducing crack consumption and promoting continued abstinence of the substance. In the experimental group, 21.2% of the participants remained abstinent from crack for all the 12 weeks of the study, compared to none in the control group. CM treatment was also more effective in ensuring treatment adherence: 51.5% of participants adhered to all 12 weeks of treatment, compared to none of the control group. Significant differences in favor of CM were also observed with regard to reducing marijuana and alcohol consumption. Although they were not primary targets of intervention, the addition of VBCM to standard treatment also reduced symptoms of depression and anxiety (Miguel et al., 2017). In addition, more than 90% of the participants in the experimental group found VBCM easy to understand, all reported enjoying their experience with VBCM, more than 80% said the intervention helped them considerably, and more than 90% indicated that VBCM could greatly help other people with crack addiction (Miguel et al., 2018). Although this

study was not developed to address cost-effectiveness analyses, the average value spent on vouchers was R$116 per month. With an estimate of at least R$250 per substance user inpatient treatment in the Brazilian Unified Health System, it is plausible to argue in favor of the cost-effectiveness of VBCM. This further justifies the importance of new research and its application in public services focused on the treatment of SUD in Brazil.

Case Study

CM has been evaluated in many research projects, but it has also been applied in service delivery contexts, without necessarily aiming at an evaluation of its effectiveness and the publication of findings (Higgins et al., 2008; Petry, 2011). This can be exemplified by the clinical case presented below, conducted by one of the authors.

John (fictitious name), 15 years old, was referred for treatment by his parents for smoking marijuana every week, presenting low grades at school, and being currently at risk of failing the school year – although teachers and parents considered him very intelligent. He had already been diagnosed with attention deficit-hyperactivity disorder and was on treatment with Ritalin. John had a good relationship with colleagues, friends, and teachers and saw no problem in smoking marijuana. He said he was not addicted, that he smoked marijuana because he liked it, and that he would not stop smoking. John's parents were very worried, but they worked all day and said that they couldn't control what John did during the day.

At the beginning of treatment, the therapist sought to establish himself as a non-punitive audience, avoiding criticizing or demonstrating any dissatisfaction with what John was saying. The therapist also sought to reinforce reports of alternative or incompatible behavior to the use of marijuana and to stimulate discrimination of the delayed aversive consequences related to the use of marijuana (e.g., smoking in the afternoon, not being able to study for the next day's test, and failing the test).

After 2 months of treatment, John had missed many scheduled appointments, created little connection with the therapist, and spoke little about his pattern of marijuana use and his initiation into other drugs – the therapist suspected use of hallucinogens and ecstasy. In addition, marijuana consumption and school performance remained the same, with a great risk of John having to repeat the school year. John reported not liking therapy and being forced to attend. Taking all of this into consideration, the therapist proposed to the parents: that they started attending therapy together with John; to implement, with John's consent, CM strategies that would reinforce the achievement of goals set by John and his parents; and to place a therapeutic companion to attend him, whose objective would be to create a bond with John and expose him to new reinforcing activities not linked to the use of marijuana. The proposals were accepted.

After two sessions, John and his parents identified other reinforcing stimuli: going out with friends on Friday and Saturday nights, taking guitar lessons, playing video games, and earning an allowance. Based on this, the therapist proposed to the

parents to place these reinforcers contingent on marijuana abstinence and on John attending two private tutoring classes a week. Thus, a personalized CM was created for John. On Monday and Thursday nights, he started taking urine tests in the presence of his father. If the Monday exam was negative, he could take guitar lessons on Tuesday, but if it was positive, he would be out of class that week. He could go out with his friends on Friday and Saturday only if the Thursday test was negative. As long as the tests were negative, he would have access to the video game, but if there was a positive test, he could not play until the next negative test. Parents were also advised to divide John's allowance into eight parts and to present each part twice a week on the day of the private lesson (if John had attended). An extra amount would be given for each test score of 7 or more.

After 7 months of CM intervention, John's school performance improved substantially – he had to go to summer school in two disciplines, but managed to pass the year. He still substantially reduced the number of positive urine tests – although he did not achieve more than 2 months of continuous abstinence. He established a good bond with his therapeutic companion, with whom he even scheduled a holiday trip. The parents reported that the relationship between them improved, that John was less irritable, happier, and with greater self-esteem. They also reported that he was less reluctant to take his private class and that they now knew how to handle the marijuana issue better.

This case exemplifies a successful application of CM in a population and an SUD with little investigation. We need more research on the use of CM in the treatment of adolescents (Krishnan-Sarin, Duhig, & Cavallo, 2008) and for marijuana use disorders (Budney & Stanger, 2008). But as illustrated by this case, *CM is a very flexible strategy and can be used with different target behaviors (that can be simultaneously targeted), different reinforcers, and populations*.

Concluding Remarks

CM is one of the few evidence-based psychosocial treatments focused on SUD. Although it is a relatively recent behavioral intervention, it has gained more and more space in the scientific literature due to its satisfactory results and practicality of application. Unfortunately, its rapid progress in becoming an empirically sustained intervention has not yet been reflected in large dissemination efforts. We hope that this intervention can be increasingly researched and implemented in countries such as Brazil.

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Chapter 20
Conceptual and Practical Horizons of Systemic Family Psychotherapy and Substance Use

Eroy Aparecida da Silva

Introduction

The family has been the object of study in several areas of science; its concept is diverse and depends on the interest of each one of them, thus bringing a multidisciplinary look. In this chapter, we use the understanding of the family from the perspective of psychology in the light of systemic thinking, which emerged around the 1930s, as a new theoretical paradigm for understanding human relations, which conceived that nothing in the universe occurs in isolation and living beings coexist with everything that inhabits it in diverse but interconnected times, cultures, and customs. Thus, the understanding of living systems is essential totalities of the whole, organized from the organizational relations between the parts (Bertalanffy, 1975; Minuchin, 1982).

From the beginning, this paradigm was characterized by a system vision whose basic characteristics are intersubjectivity, complexity, and instability. The family in this perspective is defined as a living system, that is, a network of relationships with rules, customs, values, and beliefs, and is in constant exchange with the sociocultural environment. The changes families go through are directly related to those of culture and society (Silva et al., 2018). Thus, the family transforms and is transformed by the external environment, and it is in its interior that personal identity is formed, creating numerous webs of exchange that pass through several generations (Bowen, 1978, 1991; Carter & McGoldrick, 1995; Cunha et al., 2018; Haley, 1973; Silva, 2012a, 2012b; Sluzki, 1997). In this way, the concept of family, even from the perspective of psychology, is also multiverse. Families present countless particularities and diversities and build values, rules, and models of affectivity based on their own histories, thus configuring a kaleidoscopic complex with multiple realities.

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Originally, the word "family" comes from the Latin *Famulus*, a term used in Ancient Rome, whose meaning was that of a servant's domestic slave to designate a new insurgent social group among Latin tribes when they were introduced to work in agriculture. Over time, families have come to constitute a social group delimited by blood ties. Since the 1950s, a great revolution of customs, values, rules, and cultures occurred together after the postwar period; with the insertion of women in the labor market and the advent of the contraceptive pill, the beginning of several social movements drove the changes. This new family, or mosaic family, as some authors define it, is the basis for the construction of postmodern families today (Alves, 1977; Dias, 2016; Gimeno, 2001; Silva, 2011).

These transforming impacts directly influenced the Brazilian family, whose roots stem from a miscegenation of Portuguese, Indians, blacks, and immigrants (Samara, 1983). However, the main transformations in the characteristics of the Brazilian family system from the 1950s onward were a change in the model of traditional nuclear organization (father, mother, and children living under the same roof), the expansion of the paternal role beyond the tasks of provider, the increase in the number of marital separations, nonformalized unions, as well as single women caring for the family and the union of homoafetive couples. These are some of the many aspects that have contributed to changes today (Silva, 2001, 2011).

All these changes, adaptations, and readaptations have brought to contemporary families several challenges that have contributed to new organizational and adaptive forms at different stages of the family life cycle. In addition, contemporaneity brought a sum of feelings that directly influenced the family's mental health: anxieties and fears in the face of external or even intrafamilial urban violence, insecurity in relation to unemployment of family caregivers, stress and dissatisfaction at work, sexually transmitted diseases, and the abuse of licit and illicit drugs. These are just some of the factors that are directly or indirectly present in homes today, which contribute to serious impacts on family functioning. This set of factors pointed to a real need for therapeutic care of the entire family system (Feijó et al., 2017; Silva, 2011; Silva, Noto, & Formigoni, 2007; Silva, Rodrigues, Micheli, & Andrade, 2015).

Systemic Family Psychotherapy

Systemic family psychotherapy is already in its vital cycle of maturity and has brought many contributions to the relational lives of families in the face of all the challenging impacts cited above, both intra- and interfamily. It began in the 1950s in the United States, grew and spread throughout the world in different schools in the 1960s, and continued to expand in the decades that followed. In Brazil, the proposal of family treatment began in the late 1970s, but it flourished in the 1980s, with the construction of several training centers. Currently, research and clinical practices with family psychotherapy are in a phase of vigorous and inventive maturity both in our environment and in other parts of the world (Macedo, 2008).

Family psychotherapy in its early days emerged in a context where introspective individual approaches were being questioned, especially to deal with patients with schizophrenia. In addition, the development of hospital psychotherapy, counseling of couples, and work with the guidance of children broadened the perspectives for new methods of treating people from their own constitutive system, that is, the family system (Ackerman, 1986; Bowen, 1978, 1991; Cerveny & Berthoud, 1997; Haley, 1973; Minuchin, 1982). Unlike several other psychological approaches, systemic thinking, from which family psychotherapy comes primarily, is the result of professionals from various fields of science and not just doctors and psychologists. Philosophers, sociologists, anthropologists, mathematicians, and many others have contributed to the diversity being present from the very beginning of the development of this thinking. Thus, family systemic psychotherapy has two important theoretical landmarks: General Systems Theory (GST), proposed by Karl Ludwing Von Bertalanffy (1901–1972), an Austrian biologist, and Cybernetics, whose reference was Norbert Wiener (1894–1964), an American philosopher and mathematician (Bertalanffy, 1975; Wiener, 1948, 1984). Below, each one will be briefly described and related to the systemic vision in psychotherapy.

The emergence of the General System Theory (GST) occurred at a time of many transformations in the conceptions of the world, which influenced the way of facing both human and physical phenomena. GST strongly questioned the mechanistic and positivist conception of the universe and its research methods and presented to the scientific community a new proposal based on the paradigm of interdependence and interrelation of all phenomena (physical, biological, human, psychological, cultural, and social). In other words, under this conception the systems are integrated totalities, whose properties cannot be reduced to smaller units (Bertalanffy, 1975; Capra, 1982). In short, Bertalanffy's thought proposed that the laws that applied to the biological sciences could also be applied to other areas, from the human mind to the global ecosphere (Bertalanffy, 1975). This author was an important critic of the reductionist view of science that observed isolated or fragmented phenomena of total systems; his proposition to the scientific community was to think of the phenomena in their entirety, and he proposed that the system is a complex of elements and interactions (Bertalanffy, 1975; Watzlawick, 1981). A system does not exist in isolation; it is always a part of the whole. Bertalanffy called social groups or open systems those that interact continuously with the environment and closed systems those composed by nonliving organisms. He contributed with a vision of perspectivism, which advocates that although reality exists, the one we know will never be totally objective, because the perception of it is of character, personal, and nontransferable, and the act of observing has a direct effect on the phenomenon being observed. The main basic contributions of GST to the field of family systemic psychotherapy were: (a) the system being more than the sum of its parts; (b) interaction and integration within and between systems; (c) self-capacity of organisms to restore or protect their integrity; (d) valorization of ecological beliefs and values versus devaluation (Ackerman, 1986; Minuchin, 1982).

Cibernética's contributions coming from Wiener's proposals from his studies with machines have also influenced systemic thinking. During World War II, this

researcher was called upon to develop a technology that would allow weapons to hit mobile targets. During the development of this task, he proposed the idea he called cybernetic systems, that is, systems that are self-correcting in relation to the way humans and animals operate (Nichols & Schwartz, 2007). The central basis of this thinking is *feedback*. Feedback is the ability by which a system obtains the necessary information to self-correct itself, either in the sense of moving, or in the sense of standing firm in the face of a programmed goal (Silva, 2010). It can be related both to the system's performance with the external environment and also between the internal parts of the system (Bedendo et al., 2019). It can be both negative and positive. It is important to emphasize that these two words are not related to be beneficial or not, but to the idea that the effects it has on deviations from a firm homeostatic state. Positive feedback amplifies the change or deviation and negative feedback reduces it (Schaub et al., 2018; Silva, 2010).

These concepts, when applied to the systemic view on the family, relate to the following issues, as proposed by Nichols and Schwartz (2007): (a) rules within the family that command the extent of behaviors that the family system can support, also called family homeostatic variation; (b) negative feedback that families use to comply with these rules (double messages, symptoms, unspoken, guilt); (c) feedback movement around change or deviation; (d) feedback movements or waves, which occur when the traditional negative feedback of a system is ineffective.

The union of these two complex theoretical paradigms was the basis of the construction of systemic family approaches in a context of adversity in the 1950s, right after World War II. This period, despite a very adverse context, where many families lost their relatives in the war, or were separated by migration to flee from misery and loss, was the beginning of many significant changes that influenced the following decades: struggles of ecological, feminist, anticolonialist movements and the broadening of the look at caring for families from a systemic perspective.

Two important facts have influenced and driven the development of the clinic with families: the treatment of people with schizophrenia and therapeutic work with children. Ackerman (1986), a child psychiatrist and psychoanalyst, proposed the inclusion of parents in therapy and coined the term (psi) family therapy. In California, anthropologist Gregory Bateson proposed a major movement involving psychiatrists and clinical psychologists calling attention to the study of paradoxical communications in families with people with schizophrenia. Several psychoanalysts in the eastern USA have expanded their approaches to systemic practices by including their relatives in treatment (Bateson, 1972). In the years 1960–1970, family systemic psychotherapy expanded to Europe and became stronger and more mature in the United States, with the emergence of several schools that differ from each other, but with the same systemic basis: strategic, structural, cognitive-behavioral, and trigerational schools, among others (Bowen, 1978; Haley, 1973; Minuchin, 1982). These were considered of first order or cybernetics.

Since the 1980s, a movement called second cybernetics expanded even more the clinical practices with families, from the thought that the observer is inserted in their observations, emphasizing the importance of the therapist as part of the therapeutic system. At the end of the 1980s, Humberto Maturana and Francisco Varela proposed

even more changes in family care, arguing that the observer and observed are inseparable and people perceive reality in a way that is not objective, but in the way they observe and mean, representing the constructivist, narrative, and collaborative approach in family therapy represented by Michel White, Harry Goolishian, and Tom Andersen, among others (Maturana & Varela, 1984; White & Epston, 1990). They propose an important paradigm shift also called postmodern family approaches. They move away from previous views about homeostasis, deviations, and negative or positive feedback and adopt an understanding focused on the field of meaning and language (Grandesso, 2009). The postmodern approach is based on two theoretical references: social constructionism and constructivism. Both, despite their differences, present in common the assumption that reality is built from the act of observation of each person, and the impossibility of a privileged place of access to an objective reality (Grandesso, 2009).

Several postmodern family therapy approaches are consolidated both internationally and in Brazil; they are collaborative, narrative, critical postmodern approaches, and several others (Andersen, 1991; Anderson & Goolishian, 1988; Gergen, Hoffman, & Anderson, 1996; Gergen & Warhuus, 2001; Grandesso, 2009, 2011; Rasera & Japur, 2007). These present several unicities among themselves, and, according to Grandesso (2009), some of them are: (a) the therapist co-constructs in the therapeutic system, together with the family, the definition of the problem, and the potential for change; (b) all change occurs only from the system itself, being the therapist's responsibility to organize the therapeutic conversation; (c) the emphasis is much more on the process than on the content of the stories; (d) legitimizing the local knowledge of people in their contexts; (e) believing in the person/family as authors of their stories and existence. This complexity should not be confused with a theoretical anarchic eclecticism, but rather as an ethical-political posture of the therapist based on transdisciplinarity and collaborative practices, at the service of horizontal care for the well-being of families, in the face of their dilemmas and suffering, among them the harmful consumption of substances that will be discussed below.

Impacts on the Family System and Harmful Use of Substances

The use of drugs is an ancient custom in human history and has acquired different functions over time and is now present in all social classes around the world. It has slowly moved from a religious ritualistic use, with the purpose of approaching deities, to a contemporary consumption of pleasure-seeking, immediate relief from physical or psychic discomfort, direct or indirect social pressure, or even in family rituals of celebration without denotation of problems, as is the case of alcoholic beverages in Western families (Silva, 2011). However, the harmful use of psychotropic drugs has several causes and affects both the individual and his family system. Its presence in the family environment can be transitory or lasting; it assumes different functions, and depending on the context, this use can increase and bring serious consequences.

To understand the issue of psychotropic drugs, both intra- and interfamilial, it is necessary to widen one's gaze to the various contexts in which they are consumed. In addition, it is worth mentioning the importance of equal inclusion in public policies, both of illegal substances, such as marijuana, cocaine/crack, ecstasy, and heroin, as well as of legal drugs. The latter are freely traded, such as alcoholic beverages, cigarettes, various medications, and some solvents, among others, that are much more present in people's lives and often go unnoticed, neglected, or often stimulated by the media. The advertisements of medications, alcoholic beverages, and cigarettes present scenarios, on the one side, of glamorization or status symbol and, on the other, of the consumption bringing "immediate relief" for anxiety, fear, and stress. Although not all people who use drugs are addicted, many of them experience problems at home, in social relationships, at school, or at work that can progressively increase and evolve into addiction. The concept of addiction is not unique and has gone through different definitions, moral ("*addiction*"), disease (medical model), syndrome (set of signs that characterize dependency), learned behavior, and biopsychosocial phenomenon of multiple causes, the latter adopted for the understanding of problematic drug use from a systemic point of view in the family environment. Problematic use or dependent use is different, therefore, from the social use of any substance and is considered a significant stressor in intimate and family relationships (Andrade & De Micheli, 2016; Frade et al.,2013; Reichert, Silva, Andrade, & De Micheli, 2019; Silva, 2011).

When dealing with problematic drug use in the family from a systemic perspective, it is also important to include in this theoretical basis the Theory of Complexity proposed by Edgar Morin. In summary, the Theory of Complexity emphasizes the understanding of human dilemmas from the perspective of multiple and intertwined processes of individual, family, social, affective, and economic meanings that generate network effects of circular complexity (Morin, 1991).

This circular process is composed of several important elements that in interaction present complex kaleidoscopic images: (a) the historical and anthropological understanding of drug use in the evolution of man and family in different contexts; (b) the differentiation in the spectrum between use and evolution toward dependence; (c) the different functions of the drug in the family during the family life cycles, that is, the different phases that families go through throughout their histories: acquisition (young children), adolescence (adolescence of the children and adult life of the parents), maturity (departure home of the children), and late (aging and death of parents), which will be discussed later (Cerveny, 1994; Cerveny & Berthoud, 1997, 2004; Silva, 2012a, 2012b). From a systemic point of view, drug abuse and dependence are systemic processes that affect and are affected by the interactions between the person and the substance, the person with themselves, and the person with others, primarily the family nucleus, from which they originated. In general, the presence of problematic drug use by one member affects the entire family, which in turn is affected by this repetitive circular process. This circularity can be perceived in different ways: the most common is guilt, "where did we go wrong?" Another is the stigma and labeling, the user being transformed "into the maconheiro," "into the drunk who shames everyone," "into the cracker," "into the junkie

who wants nothing from life," an attempt to exercise absolute control over the user's life, besides the violence present in relationships (Feijó et al., 2017). At the other extreme there are also families where the problematic consumption is not seen as such, because all family members consume substances together, an excessive tolerance when giving money for the drug to be consumed at home instead of on the street, or even the hiding of the consumption for fear of the consequences. It is necessary to emphasize that each family builds in its interior its customs, beliefs, loyalties, approaches, and estrangements. In this sense, it is very important to know how the system experiences and deals with the use of substances inside (Payá, 2017; Silva, 2010; Silva et al., 2015).

The beginning of problematic use can occur in different phases of individual and family life cycles – childhood, adolescence, adult life, late stage of life – and currently there is evidence that drug dependence has an intergenerational impact (Copello, Velleman, & Templeton, 2005; Silva, 2012a, 2012b; Souza & Carvalho, 2012). The problematic presence of drugs in the family system in any generation interferes with the family's developmental tasks, building what several authors call dependency delimited systems, whose functioning varies according to states of abstinence and exacerbated drug use. It is also common for drug use to assume a paradoxical function in the family system: on the one hand, it guarantees homeostasis, and on the other, it distorts interpersonal feedback of family interaction, influencing relationships of self-confidence and esteem in the family (Copello et al., 2005). In the following we will briefly discuss some possible situations experienced in each of these phases of family life cycles in the presence of problematic use of substances.

In the family in the acquisition phase (small children), alcohol-dependent use by parents may bring possible effects on the children's life: there is increased anxiety both intra- and interfamily with repercussions on learning tasks; the identification model with the parent may be impaired when the child is of the same sex; and children of alcohol-dependent parents have four times greater chance of also becoming dependent (Ernst et al., 2006; Patterson, 1982). Children of the opposite sex of the parent may, in the future, establish affective and loving bonds similar to parental models, thus repeating the model learned in their history of origin. At this stage, it is also common for parents to use various medications and tobacco, where the child "passively assists" this behavior and in the future reproduces it, as parents often disregard that their children learn from themselves (Silva, 2012a, 2012b).

At this stage, drug use can arise both in the adolescent (from using drugs either out of curiosity or to be part of the group, which is very common) and in the parents. It is also common for some problems in the family to arise only when the children reach adolescence (Silva, 2012a, 2012b).

The main drugs experimented by adolescents in Brazil are alcohol, cigarettes, solvents, and marijuana. Adolescents whose parents use drugs tend to see it as a common fact to try to measure strength with their parents or to become the "savior" of the family to defend the parent who does not use drugs (De Micheli & Formigoni, 2002; Silva, 2012a, 2012b). Adolescent children also develop feelings of shame, humiliation, personal rejection of friends and society, and also fear and social isolation due to scandals or embarrassing situations created mainly in relation to drunk-

enness. Adolescent daughters of dependent women often ally themselves with their fathers as substitutes for their mothers and begin to play roles that are often not theirs (caring for the home, with younger siblings, and with the parents including the mother) (Marangoni & Oliveira, 2013).

In general there are more men than women abusers and drug addicts, and the prevalence of alcohol-dependent women compared to men varies from about one to five; women are more stigmatized than men about this problem. They usually use the drug at home, alone when their children and husband are not at home (Gomes, 2010). Drug use in the adolescent family phase can also blur the parents' marital problems, where the adolescent goes through the "sacrifice" of maintaining family homeostasis.

The family in the mature phase is generally understood when the parents are between 40 and 60. This is the period when children are usually leaving home either to live alone or through marriage and parents are in the pre-retirement phase. In this phase, the couple finds themselves again without the presence of their children and may face several problems that were latent in the previous phases. In general, drug use may have happened in the previous phases, but it intensifies when the couple has to deal with the children leaving home, the death of the parents themselves, and the loss of help or company from the extended family. The drugs most consumed at this stage are alcohol, tobacco, and cocaine/crack for men and alcohol, tobacco, amphetamines, and benzodiazepines for women. Women who are dependent on drugs are more often abandoned by their partners than dependent men. Depression is more associated with women than with men, and at this stage, many women resort to alcohol use because of its early stimulant effects in dealing with depression. Often the couple needs to be guided to adapt to change without resorting to drugs (Marangoni & Oliveira, 2013; Schuckit, 1969; Silva, 2004).

In this phase there may also be situations of unemployment for men, almost in the pre-retirement phase that brings a lot of stress in relation to either the fear of dependency of the children or the perspective of not finding a new job. Alcohol abuse in many situations is a mitigating factor of the high degree of anxiety.

The family in the late phase is the phase that includes people over 65 years of age. In this cycle of life, older people need to adapt to changes in power for younger people in the family. One of the main challenges in this phase is losses: changes in work ties (retirement, loss of spouse, often younger children and grandchildren, or even old friends) and the transformation of physical capacity and vigor. Isolation from the support network for the elderly is also visible. The main drugs abused at this stage are tobacco, alcohol, painkillers, barbiturates, and benzodiazepines, often used to deal with the feeling of "emptiness" and loneliness. Younger generations tend to treat drug abuse of the elderly in two visible ways: with tolerance and permissiveness, where behavior becomes an object "for free," or of intolerance and censorship, contributing in the latter case to increase in isolation and loneliness.

Another common problem in Brazil in relation to the elderly is the involvement with games. Bingo and other games of chance at this stage of life have also been a frequent type of dependency for both men and women. They frequent clandestine gambling houses, spending and losing their meager retirement wages. The therapeutic approach with dependent elderly families is to decrease isolation and affective support for the elderly.

Final Considerations

Many times drug abuse in the different phases of the life cycle is related to the degrees of stress in the family system. The earlier it is identified, the better is the result of the intervention that should invariably include as many family members as possible in order to give back to the families the skills to deal with the problems within this system. The treatment of drug dependency from a systemic perspective considering the stages of the life cycle aims to identify the intergenerational family stressors that triggered the problem use, so that future generations can learn different ways to deal with life without substance abuse. This should include as many family members as possible and have prior criteria for assessing the family system: use of the family genogram (McGoldrick, Gerson, & Shellenberger, 1985), as well as the history of substance consumption by the family, family beliefs and values, leisure, and religiosity. Prevention of relapses, observation of the communication of the family system, and follow-up of posttreatment families should be part of the treatment process.

Public policies aimed at both treatment and prevention of substance use involving the family system are necessary. Evidence in this area indicates that the earlier the problem of drug abuse is identified, the better the chances of changing the pace of problems related to problematic substance use in the future (De Micheli & Formigoni, 2002). In addition, these policies must be linked to effective social programs that guarantee families the basic right to health, food, and education for their children.

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Chapter 21
Clinical Behavioral Therapy for Adolescent Users of Substances

Carla Regina Guimarães Zuquetto

Introduction

Adolescence is a phase characterized by a detachment from the family as a primary source of learning and gradual incursions into the adult world. It is common that at the same time a loosening of family ties increases the bonds between peers of the same age. The psychobiological development of the adolescent favors an increase in vulnerability to the acquisition of risk behaviors, including substance use (De Micheli et al., 2014; De Micheli et al., 2016; Yamauchi et al., 2019). A detailed observation of the neurological development during adolescence shows that in this phase there is a delicate refinement of synaptic connections (Andrade and De Micheli, 2016). While some structures decrease, others, such as the amygdala, hippocampus, and prefrontal region, increase in volume. Medical literature suggests that strengthening systems, such as the limbic pathway, are overactivated in adolescence, while the development of the inhibitory system does not follow in the same measure. These factors make adolescence at the same time more vulnerable to the installation of risk behaviors and a phase in which drug use can have a more intense and lasting effect on the individual (Silva & Mattos, 2006).

Among the vulnerability factors for drug abuse are increased impulsiveness and sensation-seeking behaviors, which combined with environmental and personal characteristics (e.g., drug use by friends, poor school performance, low self-esteem, depressive symptoms, low sense of responsibility, history of stressful events, early alcohol use, messages in favor of use by friends and the media, tolerance of experimentation, and the use of and access to drugs of abuse), increase the chances of adolescents getting involved in situations of alcohol, tobacco, and drug use. Inadequate parental behavior, such as poor quality in relationships with children, drug use, messages in favor of use, lack of clear norms and rules, and insufficient parental monitoring, also favor adolescents to engage in risky behaviors, including

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substance use (Gomide, 2014; Oliveira et al., 2016; Rocha, 2012; Silva & Mattos, 2006; Souza, Amato, & Sartes, 2013; Zuquetto et al., 2019).

Data from the III National Survey of Drug Use by the Brazilian Population (LNUD), conducted by the Oswaldo Cruz Foundation, showed that 34% of adolescents between 12 and 17 years of age have tried alcoholic beverages, 22% have drunk in the last 12 months, 9% in the last 30 days, and 5% have drunk in a *binge* pattern (use of 6 or more doses in a single episode of consumption). As for the use of illicit substances, of the adolescents between 12 and 17 years, 4% have experienced some drug in life, 2% have used in the last 12 months, and 1.5% have used in the last 30 days. According to this survey, 38,000 adolescents were using some psychotropic substance at the time of the study, and of these, 0.2% sought treatment (Bastos, Vasconcellos, De Boni, Reis, & Coutinho, 2017).

It is important to point out that the phenomenon of substance use manifests itself in different ways. Not every adolescent who tries a certain substance becomes dependent on it. Disorders due to substance use have a multifactorial origin: family, social, economic, environmental, and individual aspects interact to establish this repertoire (de Oliveira Pinheiro et al., 2020). The development of a dependency can take some time and varies according to the substances and their characteristics, which makes substance dependence not such a common diagnosis in adolescence. However, the use of substances can bring risks even if the user is not dependent. To cite some examples, we know that heavy episodic drinking[1] increases the chance of practicing sexual intercourse without a condom and getting involved in fights (Gomes, Bedendo, Noto, Amato, & Santos, 2017). A systematic review, published in 2020, showed that teenage cannabis use, on a daily or weekly basis, is related to the appearance of psychotic episodes and psychotic disorders (van der Steur, Batalla, & Bossong, 2020).

We can say that the use of substances is risky behavior and therefore deserves clinical attention. Studies show that drug use by adolescents can be related to the confrontation of symptoms of other psychiatric disorders, such as anxiety, depression, hyperactivity, or social phobia (Perron & Howard, 2009). In this sense, psychotherapy for substance-using adolescents must have a broad look at all contexts in the individual's life to be effective.

The objective of this chapter is to present the model of understanding the behavior of substance use in the analytic-behavioral clinic and to present the main processes of intervention used by the field in the psychotherapy of adolescent substance users.

Principles of Behavior Analysis

Behavior is a relationship between organism and environment. Behaviors can be classified as *respondent* or *operant* (Skinner, 2003). Respondent behavior is a relationship in which a given stimulus (S) from the environment produces a specific

[1] Heavy episodic or *binge drinking* is the consumption of four or more doses of alcoholic beverages on the same occasion.

response in the organism (R). A classic example is Pavlov's dog conditioning. When presented to the meat powder, the dog starts salivating. After repeated instances of concomitant presentation of a sound signal and meat powder, the dog begins to salivate upon hearing the sound signal, even if not accompanied by the meat powder. At the same time that meat powder was an *unconditional stimulus* to salivation, the beep became a *conditioned stimulus* to the same response (Skinner, 2003). In the case of the use of substances, the most obvious responding behavior is the development of tolerance and the occurrence of *overdose* poisoning. The use of the drug elicits a series of unconditioned responses – the effects of the drug on the body – among them a series of regulatory responses opposed to the effects of the drug, in order to seek homeostasis. With time, the use environment becomes a conditioned stimulus for these compensatory responses, making the organism not respond in the same way to the same amount of drug used at the beginning of the use. On the other hand, the consumption of the same amount of the drug in a different environment (that is, without the conditioned stimuli that elicit the compensatory responses) can cause a more intense intoxication than the user imagined, causing the organism to collapse, in a phenomenon known as *overdose* (Leonardi & Nico, 2012; Siegel, 2001).

Operant behavior, in turn, is a relationship between the organism and the environment where in the presence of certain antecedents (A), a response from the organism (B) modifies the environment, producing a consequence (C). Depending on the consequence produced, the likelihood of similar responses being emitted in the presence of the same background (A) may increase (strengthen) or decrease, returning to the frequency before conditioning (extinction). When the behavior produces the presentation of an aversive stimulus or the withdrawal of a reinforcement stimulus, we have a process called *punishment*. Punishment is an especially important process for the clinic because most of the behaviors that lead a person to seek psychotherapy are the result of the use of punishment by their environment (Skinner, 2003). The use of punishment to modify behavior, although effective at first, brings with it a number of harmful by-products, such as escape behaviors, avoidance, and undesirable emotional responses and should be avoided in a therapeutic context (Rocha, 2012; Sidman, 1989; Skinner, 2003).

The human being has an innate sensitivity to certain stimuli, called *unconditioned reinforcers* (e.g., food, water, and attention). On the other hand, the stimuli that acquire the reinforcement function from the history of the individual are called *conditioned reinforcers.* An example of a conditioned reinforcer is praise. Since conditioned reinforcers depend on each individual's history of conditioning, it is important to keep in mind that a conditioned reinforcer for one individual will not necessarily have a reinforcing function for other people, with another history of life. For example, praise can increase the likelihood of a particular behavior for a group of adolescents and, at the same time, decrease the frequency of the same behavior in an adolescent whose history of receiving praise is related to aversive events, such as being isolated by a group of friends when praised by teachers (Pessoa & Velasco, 2012; Skinner, 2003).

The distinction between operant and respondent behaviors, although useful for the experimental study of behavior, is not so clear in clinical practice. It is common

for operant and respondent behaviors to occur concomitantly in the lives of clients, and it is difficult to separate them in the analysis of concrete situations. The acquisition of a repertory of substance use follows the same conditions as any other repertory. The repertory is acquired with the occurrence of operant and respondent conditioning. The interaction between these processes makes the analysis of the pictures more complex, requiring careful exploration before proposing any intervention or technique (Leonardi, Borges, & Cassas, 2012; Skinner, 2003; Thomaz, 2012).

In addition to the processes of operant and respondent conditioning, other phenomena can increase or decrease the probability of a certain behavior occurring. Some antecedent stimuli can alter the effectiveness of a certain consequence. For example, a glass of cold water has greater reinforcing value for a person under strong sunlight who has not drunk water for a few hours than for someone who is in a cool environment, protected from sunlight, and who has recently drunk water. Thirst, in this case, is a *motivating operation*, which increases the booster value of the glass of ice water and, consequently, increases the person's probability of behaving in such a way as to have access to it (Godinho & Borges, 2012).

Motivating operations can be either *establishing* or *abolishing*. An establishing operation increases the reinforcing power of a stimulus, while an abolishing operation makes the consequences less attractive to the individual. In the case of a teenager arriving at a party where he does not find his closest friends, the strange environment can be an establishing operation, which increases the reinforcing value of the uninhibiting effect of alcohol in the body, while the presence of a group of friends, by which he feels safe, can act as an abolishing operation, which decreases the probability of alcohol consumption responses.

Case Understanding Model in Analytical-Behavioral Therapy

The analytical-behavioral therapeutic process is guided by the functional assessment of the client's complaint. *Functional analysis* is the way in which the therapist interprets the dynamics of the client's functioning and whose conditions are related to this dynamics (context in which it occurs, consequences and effects of the behavior check, motivating operations in force in the occurrence of the behavior, as well as the life history not directly related to the complaint and other repertoires of the client).

Functional analysis allows the therapist to understand how the behavior check has settled in and remains in the repertoire of the individual being treated. Based on the functional analysis, it is possible to choose the target behavior of the intervention and the conditions that maintain it, as well as an appropriate intervention for each moment, monitoring the progress of the intervention, and evaluating its effectiveness and effectiveness. An effective functional evaluation goes through five steps: (1) building a hierarchy of clinical importance of client characteristics; (2) classifying these behaviors into behavioral principles; (3) planning the intervention;

(4) implementing it; and (5) evaluating its outcomes. The separation between these steps has a didactic purpose. It is important to know that the steps can occur in parallel throughout the entire therapeutic process, since every interaction with the client is likely to cause changes in their behavior and, consequently, in their environment, causing important changes in their repertoire (Leonardi et al., 2012).

The gathering of information about the client can occur both through reports from the client, parents, school, and other people who know the client and through direct observation of the client during the session. Physical presentation, clothing, hygiene habits, and other forms of expression (e.g., tattoos, *piercings*, haircuts, language used) are tips on how the client sees and expresses himself in the world. Precious information can come from the client's observation in the waiting room – how he behaves while he is waiting, how he communicates with his companions or other people in the room, and what activities catch his attention at that moment are reflections of how the client acts in the world.

The way your family gets involved with the therapeutic process, that is, who seeks the therapist at the beginning of the process, what is the reason for this search at this time and not previously, who contacts the therapist to schedule the sessions, how the parents are available for the process, how they make agreements and comply with each other combined, what people other than parents are directly involved with the client, how the payment is made, who is responsible for the operational issues of the therapy – taking, seeking, organizing, the payments – also gives strong indications of the family functioning and the place of this client within his family.

The use of some instruments can enrich this data collection. Psychometric tests and inventories (e.g., the parental style inventory (Gomide, 2014) can be useful, as well as anxiety and depression scales, drug use and quality-of-life inventories), to build a lifeline for the client, parents, and family; to visit photo albums; and to build a genogram to look for similar behaviors in the client's ancestry, as well as to understand which aspects of that family's history may be related to the behaviors. The use of playful and expressive resources can be especially useful with clients who have patterns of avoidance or who do not have a well-established repertoire of self-knowledge and description, acting as tools for modeling these skills.

Combining psychotherapeutic treatment with psychiatric treatment can be especially useful in the case of drug use, since the use can be a way for the client to deal with some psychiatric symptoms. In addition, some drugs can potentiate the effect of behavioral interventions, being especially useful in difficult cases (Corchs, 2012; Oliveira, 2012).

The use of substances can have different functions for each customer. While for one client smoking leads to receiving attention from peers (a positive reinforcement contingency), for another client smoking can be a way of not feeling inhibited at a party (therefore negative reinforcement in an elusive pattern). While one client is more predisposed to a heavy drinking episode when they receive a bad score in school evaluations (negative reinforcement), for another client the taste of the drink may be the reason for consumption (positive reinforcement). Understanding the specific function of consumption for each client allows the therapist to choose, from a range of interventions, which is most appropriate for that case.

From the first data collection, the therapist can begin to organize this information according to the principles of behavior analysis explored earlier in this chapter. Thus, it is possible to understand the conditions in which drug use behavior has become established and the conditions that maintain this behavior today, as well as which reinforcement conditions need to be changed or which new reinforcements need to be conditioned.

The therapeutic relationship is a privileged place for the client. For Skinner, the function of psychotherapy is to treat by-products of control that incapacitate the individual or are dangerous to him or others. For this author, drug use can be a temporary escape from aversive events generated by the punishment of other behaviors deemed inappropriate by society or the escape of withdrawal symptoms when addiction is present. For the success of the therapy process, the therapist must establish himself as a non-punitive audience, which allows the client to issue responses that are usually punished outside the therapeutic context (Skinner, 2003).

In the interaction between therapist and client, the client may present patterns that would normally be punished and, while the absence of punishment weakens motivation for avoidance behaviors such as drug use, the therapist may act as a model of empathetic and welcoming response. An adolescent-therapist interaction that minimizes the client's suffering by allowing them to talk about their difficulties and, at the same time, increase their tolerance to aversive situations is, in itself, an effective intervention.

Therapy will be effective to the extent that the bond between therapist and client is sufficiently strong and meaningful (Tsai, Callaghan, & Kohlenberg, 2013). Considering that substance use may be related to the presence of negative parental educational practices and the deficit of positive educational practices, such as positive monitoring and moral behavior, it is important that the client finds these aspects in the therapeutic relationship (Rocha, 2012).

Positive monitoring, for Gomide (2006), is a set of parental practices that involve the attention of parents to their children's activities, the distribution of privileges, consistent and appropriate rules, the monitoring and supervision of activities, and a safe and continuous distribution of affection. Unlike *negative monitoring*, also called *stressful supervision*, where there is an excess of instructions and the generation of a hostile environment, positive monitoring allows parents to follow their children's development and the children feel welcome to share their difficulties with the parents.

Since parents of teenage drug users often have negative educational practices, it is important that the therapist seeks to establish an environment in which the client feels welcome to share their suffering. In addition, the therapist should be careful not to act inconsistently, reinforcing behavioral patterns that need to be extinguished. An example would be a teenager who, when quoting a fight at a party, exalts himself and begins to act as if he were on the occasion. The therapist, when interrupting the client's action, directs him/her to calm down and drink a little water, at the same time as talking about the subject calmly, acts in the weakening of the response to exalt himself/herself, avoiding reinforcing an inadequate pattern. By being welcoming and non-punitive, the therapist allows the client to explore the problem situation

and learn more effective ways to respond in that situation (Rocha, 2012). As the therapist shows availability and interest in the client's life, providing open and empathetic listening, the client is expected to develop empathy skills, self-care, and commitment to moral values, as well as make room for the therapist's interventions.

Moral behavior, according to Gomide (2006), deals with the transmission of values such as justice and compassion, as well as the presentation of conditions favorable to the development of empathy, responsibility, generosity, and knowledge about what is right and what is wrong with regard to the use of alcohol and other drugs and safe sex. Children and adolescents who do not experience adequate moral models in their own family have a greater chance of not learning to be sympathetic and empathetic to others, as well as of committing acts that may harm others (Rocha, 2012).

Another strategy used in the analytic-behavioral therapy of substance use is the modeling of a repertory competing with use, so that under the conditions in which drug use occurs, another behavior does not allow it to make use of the substance occurs. A very common example is the behavior of chewing gum instead of smoking. For the competing repertoire to be effective in avoiding use, and thus decrease the frequency of the behavior, it is important that it be at least equally reinforcing and have a lower response cost than drug use.

Among the repertories whose acquisition may be necessary in the treatment of substance users, social-emotional skills stand out. Adolescents with a greater repertoire of socio-emotional skills are less likely to engage in risky behaviors, such as drug use. Thus, in addition to building a competing repertoire with drug use, it is important for the adolescent to acquire a repertoire of skills that will protect him/her in situations where drug use presents itself as an advantageous response.

A challenge for therapy in cases of drug use is to neutralize the reinforcing power of the peer group that socially reinforce drug use and its effects. In many cases, it is essential to have an alliance between the therapist and family members in order to keep the adolescent away from the contexts of use, thus blocking one of the sources of reinforcement for drug use behavior. Considering that parents often do not have a repertoire of positive educational practices, concomitantly with the therapeutic process of the adolescent, parents need to go through a parental guidance program. Just as the client's complaining behaviors should be carefully evaluated, the relationship between adolescents and their family also deserves attention in this process.

Parental Guidance

Parental styles are sets of educational practices or parental attitudes used by parents to socialize and control their children's behavior (Maccoby & Martin, 1983) defined from two dimensions, the demanding attitudes of parents and responsive attitudes. Studies show that adolescents who report a parental style in which affective atti-

tudes and coercive attitudes are present in balance have a lower risk of reporting drug use. It is important to note that a study that compared parents' reporting and adolescents' reporting on parental style showed that adolescents' perceptions have more effect on substance use behaviors than parents' reporting on their own behavior (Cohen & Rice, 1997; Newman, Harrison, Dashiff, & Davies, 2008).

Parental styles are influenced by the social skills of parents. Studies show that the promotion of educational social skills through training programs is reflected in the increased frequency of positive parenting practices (Bolsoni-Silva, Silveira, & Marturano, 1969; Weber, Brandenburg, & Salvador, 2006).

Gomide (2006) proposes the classification of parental practices into seven categories, five categories being of inappropriate educational practices, that is, those that favor the development of antisocial behaviors (inconsistent punishment, neglect, relaxed discipline, negative monitoring, and physical abuse) and two groups of positive educational practices, which favor the development of pro-social behaviors (positive monitoring and moral behavior).

Parental monitoring is the behavior of parents who seek to know their children's activities and affections. In the case of *positive monitoring*, parents provide adolescents with a set of rules and ensure their follow-up through disciplinary actions when the rules are violated. The establishment of firm and constant guidelines allows adolescents to have autonomy over their own behavior, reducing the engagement in risky behaviors and favoring a situation of non-adversive control of their children's behavior.

Moral behavior is the parental practice that transmits values or virtues, which leads to an inhibition of antisocial behavior. Nurco and Lerner (1996, quoted by Gomide, 2006) showed that adolescents coming from families with strong attachment between parents and children, acceptance of beliefs about good behavior, and paternal disapproval of bad behavior were less vulnerable to alcohol and other drugs. Learning moral behaviors is related to the presence of genuine affection in the family (Gomide, 2006; Nurco & Lerner, 1996; Prust & Gomide, 2007).

Negative (or inadequate) educational practices are classified into five groups: inconsistent punishment, negligence, relaxed discipline, negative monitoring, and physical abuse. *Inconsistent punishment* refers to punitive practices that are not contingent on the child's behavior. For example, the mother punishes the child when she is under stress, but does not punish at times when she is relaxed. This practice brings the adolescent's behavior under the control of the parents' mood rather than the family's moral values (Gomide, 2006).

Negligence includes a series of nonresponsive parental attitudes when parents withdraw from situations that require their presence with their children. Negligent parents usually ignore their children's demands, leading to passivity in their children's behavior. Young people who grow up in negligent homes have difficulty in creating affectionate and empathetic behaviors, which may increase their chances of getting involved in infringing behavior (Gomide, 2006).

Relaxed discipline is the practice marked by noncompliance with established rules. Parents fail to demand compliance with rules in the face of aggressive and impulsive responses from their children. Just as in inconsistent punishment, chil-

dren's behavior is no longer under control of rules and values. Children of parents who present these practices are more involved in risk behaviors (Gomide, 2006).

Negative monitoring, also called stressful supervision, consists of a set of excessive control and enforcement practices by parents, often exceeding themselves in severity. This pattern prevents the development of autonomy, in addition to favoring the installation of counter-control repertoires, such as lies and omissions (Gomide, 2006).

Physical abuse, unlike physical punishment, is the use of force with the intention of hurting the child. Violent parental practices are related to the development of psychiatric disorders such as anxiety and depression, and also teach children to use violence to express themselves (Gomide, 2006).

During an orientation program for parents of teenage alcohol and other drug users, it is expected that inappropriate educational practices will be replaced by positive practices and that adolescents will receive models of pro-social behaviors, as well as parents will act in selecting the most appropriate behaviors.

Training parents' educational skills complements the individual therapeutic approach of adolescents. Without a change in the environment that has modeled and selected drug use responses, competing conditions can delay or prevent a change in drug use behaviors. In addition to parental counseling sessions, parents may realize the need to initiate their own therapeutic process in order to sustain the necessary changes in their children's educational practices.

Case Report

Customer Identification

Ana (fictitious name) was 15 years old when she started attending therapy, 1 year ago. Ana then lived under an alternating guard regime, spending 2 weeks at her mother's house and 2 weeks at her father's house. While she was with one parent, she did not talk to the other. Ana also spent one night a week at her godmother's house, who is single and lives alone. Ana has repeated her eighth grade and is 1 year late at school. Ana comes to therapy with her aunt.

Complaint Submitted

Ana's family sought therapy on the recommendation of the Guardianship Council. The school sought the Guardianship Council because Ana had been caught smoking marijuana at school repeatedly. The teenager had been smoking marijuana since she was 13, when she was transferred from a small private school to a public school with five times as many students. The aunt, who accompanies Ana to therapy, says,

"Ana is a golden girl, but she has presented strange values." When the therapist asks what these values are, the aunt says that Ana cares a lot about money and does not respect the choices of her parents, who have worked hard since she was born to give her a better life than they had.

Relevant Life History

Ana's parents were college mates when her mother got pregnant on a field trip. Her parents were not engaged, but with the discovery of pregnancy they decided to live together in Ana's mother's house. The parents spent 3 years together and separated when Ana was 2 years old. Since the separation, Ana's contact with her father was limited to visits once a week and every fortnight she spent the weekends with her father's family.

When Ana was 5 years old, her mother married for the second time and went to live in another city. Ana stayed with her maternal grandmother and then saw her mother only on weekends. Ana did not live with her mother again until she was 11 years old, when her mother separated from her second husband. When Ana was 13 years old, she went to live with her mother in the city where she currently lives, leaving her grandmother in her hometown.

Ana failed eighth grade and her parents decided to take her out of the small private school where she was studying and put her in a public school. Upon arriving at her new school, Ana felt isolated until she met other girls who had also failed the year. With these girls, Ana tried alcohol, marijuana, and perfume launcher. Ana made repeated use of marijuana in the school bathroom, and after being caught a few times, she had her case referred to the Guardianship Council, which recommended that the family seek psychotherapy.

Difficulties Presented/Identification of Clinically Relevant Behaviors

Drug Use Behaviors

- Ana consumed marijuana daily, before and after entering school
- Ana drank in a heavy episodic pattern at parties she attended on weekends, when she lost count of the volume she drank ("More than half a bottle of vodka, sure")
- Ana used inhalants and synthetic drugs at parties

Opposing Behaviors

- Ana often arrived home after the time set by her parents to return from the parties

- Ana used to say that she was responsible for her actions and that her parents had no authority over her

Risk Behaviors

- Ana had no control over the amount of beverage she ingested at parties
- Ana did polyuse drugs at parties
- Ana was involved in petty theft to get money to buy drinks and drugs
- Ana had sex with multiple partners without using a condom

Data on Parental Practices of Parents

When talking to Ana's parents, the therapist noticed that they didn't impose rules or limits for their outings (relaxed discipline). The parents also didn't care about the source of the money Ana used to buy drugs and drinks (neglect).

The parents had no consistency of rules with each other and delegated the task of monitoring Ana's performance at school to the other. Occasionally, Ana's mother would get angry at the girl's behavior and beat her or shout at her (physical and psychological abuse). In Ana's father's house, the girl slept on a mattress in the living room because her father had made an office for him in her room (neglect).

Proposed Interventions

1. Parental guidance: the therapist conditioned the girl's attendance to the participation of the parents in weekly sessions of parental guidance. In the parental orientation process, the parents realized that they had individual issues to be treated in therapy and sought help. The mother has been treating her pattern of aggressiveness very carefully, which has caused important changes in her relationship with Ana. The parental guidance initially sought to increase the frequency of positive monitoring responses and moral behavior, as well as to decrease the frequency of neglect responses (not following the girl's arrival time at home, ignoring school reports, leaving the girl alone for long periods). Currently, the main objectives of parental guidance are to model parental responses that favor bond strengthening and the creation of positive affections.
2. Increase in the repertoire of discrimination and self-description of adolescents: Before working with emotional content, it was necessary to develop the girl's vocabulary to talk about herself. We went through the discrimination of body sensations, modeled in session when the therapist realized that the girl was activated by some report, to then proceed with the modeling of an emotional vocabulary. After a year of therapy, the girl continues in this phase, developing

vocabulary and training strategies for emotional regulation through the use of expressive techniques such as drawing, collage, painting, as well as the use of games and other playful activities.

3. Change in context: At the end of the first year of therapy, the parents took Ana out of the school she was in and went back to a private, minor school. Ana has been staying full time three times a week, which has considerably reduced the time the girl is not under supervision. Parents have come to monitor Ana's arrival times more sharply after the parties and new arrangements regarding school attendance and performance.
4. Change in the guard and housing system. Ana is still under shared custody, but today she does not alternate longer periods between her mother's and father's house. One day a week the girl sleeps in her father's house, in addition to alternating weekends. The father has renovated the office so that the girl has a suitable room when she goes to sleep in his house.
5. The therapist invited the father and mother to review their working hours and leave more time available for their daughter on the agenda. Little by little, some adjustments are being made.
6. Decreased frequency of parties: before, Ana used to go out every weekend to parties, with no time to return. Today, the parents drive the girl to and from parties and they reduce it to two outings per month. To compensate, the parents do activities with the girl, such as going to the movies and restaurants and participating in activities together at home. At first, Ana was quite reluctant with the idea, but the bond between parents and daughter gained quality with these moments of greater presence.

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Chapter 22
Psychoeducation on Drug (Ab)Use

Gabriela Baldisserotto, Wilson Vieira Melo, and Elisabeth Meyer

Introduction

A comprehensive way to describe psychoeducation is that it consists of the information and education offered to people with a health condition, which can happen in any contact with the health system and at any time in the treatment process (Lukens & McFarlane, 2004). From another perspective, psychoeducation can also be understood and practiced as a systematic, structured, and didactic intervention of an illness and its treatment (Bäuml, Froböse, Kraemer, Rentrop, & Pitschel-Walz, 2006).

Several complementary theories, concepts, and practices inform the practice of psychoeducation, such as cognitive-behavioral theory, learning theory, group practices, stress and coping models, social support, and narrative approaches (Lukens & McFarlane, 2004). By integrating emotional and motivational aspects, psychoeducation seeks to help the patient and his or her relatives and/or close persons to deal with the disease and to increase the compliance and effectiveness of treatment.

People who have a comprehensive knowledge of both the challenges of SUD and its treatment, as well as knowledge of their personal resources, of external resources, and of their areas of mastery, are better able to cope with the difficulties. They feel more in control of their condition and have greater capacity to work toward emotional well-being. Nowadays, psychoeducation is considered an essential aspect of all therapeutic approaches to substance use disorders. Psychoeducation can be offered in individual or group format to patients, family members, friends, and

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significant others. It is a very valuable initial approach as it provides information about care of the affected person as well as helps the close ones to preserve their health and emotional well-being.

Historical Overview

The concept of psychoeducation was first used in an article by John Donley, "Psychotherapy and Re-education" in the *Journal of Abnormal Psychology* in 1911. In 1941, Brian Tomlinson wrote *The Psychoeducational Clinic*, which introduced the word to the medical community. American researcher Carol Anderson popularized the term in 1980 with her study of psychoeducation in the treatment of schizophrenia, in which she focused on educating family members about the symptoms and evolution of the disease and how family members could improve communication and relationships (Anderson, Hogarty, & Reiss, 1980).

Initially, the psychoeducation programs grouped several elements that were developed within a broader family intervention program. Patients and family members received brief information about the disease with the aim of increasing understanding about it and thus increasing commitment to treatment (Bäuml et al., 2006).

In Europe, from the mid-1980s onward, psychoeducation evolved as an independent therapeutic program with a cognitive-behavioral approach and a focus on skillful communication of essential information. This structured intervention is the mandatory initial step toward entry into some treatment programs. A multicenter randomized study showed that in 2 years this mandatory program for schizophrenic patients and their families was related to a significant reduction in rehospitalization rates (from 58% to 41%) and also in the length of hospitalization (from 78 to 39 days) (Pitschel-Walz et al., 2006). Currently, psychoeducation permeates the treatment of countless medical and mental health conditions, either in a structured manner and as an individual element or as a constant part of the whole treatment process, since the initial approach.

Current Surveys

Several studies show that psychoeducation in schizophrenia, bipolar disorder, and depression shows an effectiveness consistent with its goals (Bäuml et al., 2006; Colom et al., 2009; Hayes, Harvey, & Farhall, 2013; Pharoah, Mari, Rathbone, & Wong, 2010; Zhao, Sampson, Xia, & Jayaram, 2015). A review of more than 50 controlled studies, involving more than 2000 patients, showed improved mental health and functioning of both patients and family members in several cultures (Pharoah et al., 2010). This study showed a decrease in the frequency and severity of relapses of these conditions, in addition to an improvement in mental status, family relationships, medication compliance, and social and occupational functioning.

Few studies are devoted to examining the impact of psychoeducation as an exclusive form of intervention in drug abuse already established. The study by Song, Huttunen-Lenz, and Holland (2010) showed that counteracting skills training, here understood as one element among other more complex psychoeducational interventions, was effective in reducing relapse in an outpatient population and motivated to quit smoking. An Australian study (Quinn et al., 2019) of high school youth ($n = 334$) showed that brief school-based psychoeducational interventions promoted stabilization (versus increase) in problematic alcohol use in high-risk settings. Alcohol-dependent patients undergoing treatment in an inpatient facility received a psychoeducational intervention by the nursing staff, which increased motivation for treatment, assessed through a readiness for change scale (Yeh, Tung, Horng, & Sung, 2017).

A review of psychosocial interventions (motivational interview, cognitive-behavioral therapy, relapse prevention, contingency management) for substance use, in which psychoeducation was one of the elements, showed superior efficacy to control conditions (Jhanjee, 2014). This reinforces the difficulty and complexity of substance abuse treatment and the corresponding need for various modes of intervention.

Motivational Interviewing for the Psychoeducation of Patients with Substance Use

Psychoeducation refers to the provision of information that increases the understanding of a clinical condition, psychiatric disorder, emotional state, or any unhealthy behavior. Besides, it allows one to present different coping strategies to deal with and move on, despite the situation in which the patient is. In other words, PE helps patients to become more aware and well informed about the nature of any condition they are experiencing. The way the therapist directs the PE may directly influence the patient's listening and may facilitate or hinder decision making to initiate or continue to change certain unhealthy behaviors (Rollnick, Miller, & Butler, 2008).

The patient's ambivalence and resistance to recommendations related to the use of substances, as well as premature abandonment of treatment, is a frequent reality faced by all therapists involved in the treatment of chemical dependency. According to Washton and Zweben (2009), therapists involved in the treatment need to manage the patient's ambivalence in abandoning the use of the target substance while providing information about everything that involves using it. For Rollnick et al. (2008), the therapist's positioning in providing information during PE can have a different effect than expected and increase the patient's ambivalence, as well as divert attention from the target behavior.

Motivational interviewing (MI) focuses on the patients who do not believe they have a problem whose solution requires a change in behavior or who is in a

treatment program that they do not trust will be useful. It is essential to motivate the patient to engage and thereby get the best out of the treatment. For Miller and Rollnick (2013), it is through the principles and techniques of MI that a sense of well-being is provided during care that enables the patient's self-determination and contributes to changing the target behavior.

MI guides the patient who is ambivalent to behavior change as it clarifies objectives and addresses possible barriers through a spirit of collaboration, evocation, and autonomy. For Moyers (2014), the relationship established between therapist and patient provides a safe and reliable environment in which the patient can reflect on behavior change. As MI facilitates more intense self-reflection, it becomes a relevant element in the therapeutic approach for patients who make or have made use of licit or illicit substances. MI provides an important initial step in treatment when used in the PE of these patients and helps them explore their ambivalence and dilemmas, which reinforces their sense of freedom, responsibility, and self-efficacy. More than this, MI during PE can provide greater cooperation between therapist and patient and thus decrease compliance problems and contribute to the emotional well-being of the patient. When the therapist makes use of MI during PE, they recognize and emphasize the patient's freedom of choice (autonomy) and personal responsibility in the choices to be made. A typical MI intervention at this stage would be, for example: *"It is totally up to you to stop, decrease or not make changes in your consumption."*

For MI, what is important is what the patient hears themselves talking and the role of the therapist is to provoke the "Change Talk." Using the techniques of MI during PE enables the patient to listen to himself, pondering over the causes and effects of their behavior, which can broaden the perception and interpretation of the current problem. Before "informing," during PE it is essential to ask permission to provide the information and then ask the patient what the implications of what was said might be. Table 22.1 presents suggestions on how to initiate and conduct psychoeducation using MI.

To conclude, it is important to highlight two central aspects of the use of MI in PE. The first is to draw attention to the importance of the therapist keeping in mind that the way they conduct the PE may increase the "change talk" and decrease the "sustain talk." The second point is that when using PE with a patient concerning the use of substances using the principles of MI, the therapist respects the autonomy and allows the patient to openly express their ambivalence to facilitate the necessary behavioral changes.

Psychoeducation Informed by Neuroscience

Neuropsychological studies consistently demonstrate that many people with SUD have moderate-to-severe cognitive impairment in the speed of information processing, sustained attention, executive functions, decision making, and social cognition (Verdejo-Garcia et al., 2019). In addition, other neuropsychological measures are

Table 22.1 How to initiate and conduct psychoeducation using motivational interviewing

"During this consultation, I would like to get to know you better – how you see your relationship with the (substance-focus), how you perceive the treatment for this problem, and what you would like to be taken out/included from the treatment."	
A. Evoke	Start by asking something like, *"What is your opinion about drug use?"* or *"What is your understanding about drug use?"* or *"What have you heard about substance use?"* or *"What do you want to know?"* or *"What's the most important thing you want to know?"*
B. Ask permission to provide information	After the patient's speech, ask: *"Is it okay if I give you some information about the use of (substance-focus) and treatment options?"* or *"Is it okay if I give you some information to help answer your question and then you tell me what you think?"* or *"Do you mind if I give you more information to help answer the question and then you tell me what you think?"* The professional may ask for permission to speak about something that points to a possible problem with the patient's intention to adopt a specific behavior: *"Is it okay if I tell you a concern I have about this? I would like to know if going this way puts you in a situation where it might be easy to start drinking again."*
C. Evoke	After each point described in psychoeducation, ask how it sounds to the patient: *"Does that make sense?"* or *"Does it sound like what's happening?"* or *"As I explained, there are different strategies to stop using (substance-focus) that other patients have found useful, but what makes sense to you?"* or *"What do you think about it?"* or *"Where does this lead you?"* or *"How does this relate to what you thought/heard before?"* or *"How do you think this information applies to you?"* Invite the patient to clarify what will be helpful and encourage them to give their interpretation of the information.

also affected, especially affectivity and reward processing. These cognitive damages have a relatively long duration, and although there is recovery with abstinence, they can impair the initial treatment period (3–6 months). This can have a negative impact on treatment retention and adherence, a period in which psychoeducational interventions are very relevant.

Despite the general consensus that both brain structure and function are altered in SUD, clinicians who work with this population rarely use these concepts in their daily work. The International Society for Addiction Medicine (ISAM) and its Neuroscience Interest Group (NIG-ISAM) have recently launched an initiative in the form of a series of articles (available at https://www.frontiersin.org/research-topics/7806) that seek to narrow this gap.

Neuroscience-informed psychoeducation can assist in the formatting and effectiveness of both structure (the psychoeducation methods used) and content (the knowledge transferred). Current neuroscientific knowledge can help in understanding the impact of substance use, as well as the benefits of treatments on brain function, and thus can increase motivation and compliance, as well as destigmatize symptoms. The structure can be planned to recruit different neurocognitive processes, including attention, memory, and self-awareness (Ekhtiari, Rezapour, Aupperle, & Paulus, 2017).

Regarding the content, the central suggestion is that the complex evidence derived from neuroscience be presented in a simplified manner and with adequate language. The following are some important topics to be explored, developed in other chapters of this work:

1. How dependency develops and how the brain responds
2. Neurocognitive deficits caused by psychoactive substances and their importance
3. Neural circuits involved in craving
4. The impact of *mindfulness* and interoceptive awareness on neural circuits involved in SUD
5. The possible neurocognitive effects of commonly prescribed medications
6. The neurocognitive processes and deficits associated with overdoses and lapses
7. The time needed for brain recovery
8. The effects of treatment on brain function and structure
9. The effects of a healthy lifestyle on the brain recovery process
10. The role of neurocognitive rehabilitation to remedy neurocognitive deficits

A more friendly structure can increase effectiveness through media and means that favor attention and memory processes and that promote greater self-conscience.

Regarding attention and memory, the following suggestions are proposed (Ekhtiari et al., 2017):

1. Use of material with visual appeal, especially those with facial stimuli, which is most salient and favored in neural processing (Peterson et al. 2010).
2. Limit the time of psychoeducation sessions to about 20 minutes at a time.
3. Limit the speed at which information is displayed.

Useful tactics to strengthen the memory of information learned include the following:

1. Group information into categories.
2. Use mental images.
3. Link the information presented to a story or fact relevant to the individual or group.
4. Practice free recall of content at intervals of time.
5. Present the information in multiple modalities (visual, auditory, tactile, etc.).

Self-consciousness is a metacognitive function defined as the declarative knowledge of personal abilities, thoughts, feelings, and states of mind. It involves the identification, processing, and storage of information about the *self*. The lack of self-consciousness is present in SUD and can present itself as denial or lack of perception of internal states, for example. This difficulty acts both as a barrier and as a target for psychoeducation. Some ways to promote greater self-consciousness could include the following:

1. Review photos, audios, and videos of yourself.
2. Write about or verbally tell your life story.

3. Imagine your personal future or events in your future.
4. Use material that includes images relevant to you, such as avatars in electronic games, comic book characters, or video games.

Examples of this type of psychoeducational material can be found on the website of the National Institute on Drug Abuse (NIDA; www.drugabuse.gov). A broader and more detailed discussion of these suggestions and others falls short of the possibilities of this chapter. We refer the interested reader to the literature cited for further discussion.

In Portuguese, the National Secretariat for Drug Policy (SENAD) and the Brazilian Association for the Study of Alcohol and Other Drugs (ABEAD; www.abead.com.br) are reliable sources of information. SENAD offers free online courses (http://www.aberta.senad.gov.br/) on SUD. Other sources of information are the World Health Organization (https://www.who.int/eportuguese/countries/bra/pt/) and the Pan American Health Organization (PAHO; https://www.paho.org/bra/).

Psychoeducative Aspects of Relapse Prevention and Management

Psychoeducation is a powerful strategy in the treatment of substance use disorders and permeates the entire relapse prevention (PR) model. This section will highlight concepts and key elements of this model that should be part of the psychoeducation from the beginning of treatment to the maintenance phase.

Relapse

The terms *remission*, *recovery*, *relapse*, and *recurrence* are widely used in standardized form in mental health literature (Piccoloto, Wainer, Benvegnu, & Juruena, 2000). In particular, the term *relapse* can be understood and used both as a dichotomous variable – originating from a positivist and structuralist medical model that attributes the quality of "sick" or "not sick" to the patient – and as a process distributed in a *continuum* of change in behavior pattern (Brownell, Marlatt, Lichtenstein, & Wilson, 1986).

According to Marlatt and Donovan (2009), a relapse is characterized by using the substance again in the same pattern as before, unlike the lapse, which is defined by an episode of ingestion of the substance, without returning to the previous pattern. Those who "view a lapse as a learning experience are more likely to experiment with alternative coping strategies in the future, which may lead to more effective responses in high-risk situations" (p. 17).

Relapse prevention has been emphasized in the literature, not only in the final phase of treatment, but since the first session (Beck, 2013). At the beginning of

treatment, it is important that the therapist prepares the patient for likely setbacks throughout the course of the intervention. It is difficult for an improvement process to occur in a linear manner, and clinical practice shows that it is much more common to observe therapeutic progress in an oscillating manner (Souza, Kelbert, & Melo, 2014). Treatment oscillations and normality of these setbacks should be discussed in the session. This information will allow the patient to go through such periods without major concerns and, together with the therapist, to plan strategies to face possible relapses. During the psychoeducation process it is possible to use resources that will help the patient to understand how his evolution will probably develop throughout the work. Through graphs, the improvements and setbacks can be presented visually, so that the decrease and intensification of the downturns is clear. Making this tool available to the patient helps in the management of difficult situations, when thoughts arise about the ineffectiveness of treatment or insinuation of disbelief in improvement (Souza et al., 2014). The possibility of resuming these issues gives back the patient the confidence that oscillations are part of treatment and life, and that even after the end of treatment, such setbacks are likely to occur.

Techniques Used

Monitoring one's coping skills, self-efficacy, and lifestyle factors (Marlatt & Donovan, 2009) is essential in preventing relapse, since any imbalances in one of these areas may increase one's chances of becoming involved in a high-risk situation (Daley, Marlatt, & Spotts, 2003; Larimer, Palmer, & Marlatt, 1999).

Such abstinence maintenance strategies will be emphasized during all moments of therapy; however, in the final phase of treatment, it is indicated that the patient produces a flash card that describes procedures in case of relapse. The card may recall some of the concepts that have been worked on throughout psychoeducation, helping to maintain the gains obtained with treatment.

High-Risk Situations and Effect of Abstinence Violation

According to the model of Marlatt and Gordon (1985), this approach is based primarily on the detection of high-risk situations that may precipitate relapse. The patient and the therapist work on mapping these situations so that appropriate coping responses can be used first, as effective coping strategies improve self-efficacy and prevent a lapse or relapse from occurring. End-of-year parties, carnival, and site visits related to substance use are examples of "trigger situations" for drug use urges, which pose a higher risk of use and can trigger a lapse or even a relapse (Oliveira, Freire, & Laranjeira, 2011).

There is no specific list of high-risk situations, as this depends directly on the individual's experience with the substance (Marlatt & Donovan, 2009). Some

patients may feel vulnerable to relapse when they have money available, others, on the contrary, when they are short of financial resources. Many feel prone to relapse when they are among others, while others, in turn, relapse when they are alone, and so on (Souza et al., 2014). Witkiewitz and Marlatt (2004) propose the dynamic model of relapse where it is the dynamic interaction between various aspects that directs the individual to a high-risk situation. Thus, small changes, apparently unimportant in the patient's life, can generate the challenge of having to deal with multiple triggers and their consequences.

When such situations are not adequately assessed, the patient may not present an effective coping response. Thus, their self-efficacy becomes reduced, influencing decision making about whether or not to use a particular substance, according to the patient's expectations regarding the initial effects of that use (Jones, Corbin, & Fromme, 2001).

When a lapse occurs, the "effect of abstinence violation" (EAV) causes a sense of guilt and loss of control, influencing the increased probability of relapse (Curry, Marlatt, & Gordon, 1987). This concept can be explained to the patient during the psychoeducation process, allowing him/her to understand what will tend to occur if he/she is unable to use the coping strategies worked out throughout the treatment. The psychoeducation process allows the patient better conditions for decision making in high-risk situations. Explanations about EAV, in problems related to substance use, are important in preparing for possible lapses and also to prevent relapse (Marlatt & Donovan, 2009).

The dynamic model of relapse prevention is a model of understanding relapse processes that takes into account both distal and proximal aspects. Thus, the patient's response can be explained by the distal risk factors that constitute a system of self-organization along with those of risk factors, such as time of drug use, pattern of consumption, important data of family history, social support, and comorbid disorders. Thus, the relationship between distal and proximal risks – the latter including physical abstinence, current affective state, substance use behavior, and perceived effects – allows for several types of relapse configurations. This dynamic understanding is very important in understanding the psychological and behavioral phenomena involved in the relapse process.

Craving

An important aspect to be worked on during the process of psychoeducation is the phenomenon of *craving*. Many individuals tend to relapse during such crises because they do not adequately understand the characteristics of the phenomenon. Since the craving is a temporary manifestation, that is, it comes and passes, understanding the idea that it is temporary helps in its confrontation. For this, it becomes fundamental to learn how to deal with its peaks for the success of the treatment. The following are some of the nonpharmacological possibilities that can be taught to patients for the management of drug cravings.

Third-generation therapies have been using integrative resources such as those that meditation and *mindfulness* techniques can provide (Segal, 2002). *Mindfulness* strategies can be very useful when associated with other relapse prevention techniques. There is evidence in the literature to suggest that *mindfulness* skills training decreases the likelihood of posttreatment relapses (Geschwind, Peeters, Huibers, van Os, & Wichers, 2012; Godfrin & van Heeringen, 2010; Ma & Teasdale, 2004; Piet & Hougaard, 2011; Teasdale et al., 2000). There are specific protocols for the development of these skills, ranging from formal meditation exercises (body scanning, sitting meditation, walking meditation, and full consciousness movement) to exercises to stimulate attention to daily activities, such as eating or bathing (Crane et al., 2012; Kabat-Zinn, 1990).

Similarly, craving can be managed using breathing and relaxation techniques used in several treatment protocols in cognitive-behavioral therapy (Neves, 2011). Breathing exercises are widely used in different clinical practices, including craving management. As the craving process often involves muscle tension and sympathetic activation, among the relaxation exercises most commonly used in cognitive-behavioral therapy that can be taught for craving management are Jacobson's progressive muscle relaxation and Schultz's autogenic relaxation. The first one guides the individual to voluntarily provoke tension and relaxation of specific muscle groups, with the objective of a complete muscular relaxation. Each group of muscles from specific parts of the body (hand, forearm, arm, shoulders, back of neck, neck, forehead, eyes, mouth, jaw, tongue and inner part of neck, chest, abdomen, buttocks, thighs, calves, feet) is tensioned for about 10 seconds and then relaxed. This process is repeated a few times so that the sensation of relaxation becomes more and more intense. It is necessary to perform the exercise in an environment that is conducive to relaxation (Caballo, 2003). In turn, autogenic relaxation consists of a series of exercises to activate concentration in specific body sensations, especially heat, weight, and kinesthetic sensations. This was initially proposed for prophylaxis of stress and was later applied for emotional regulation (Neves, 2011).

Effectiveness

We consider it important to cite data regarding the effectiveness of the present intervention model. Regarding its applicability, it was initially conceived as a specific form of treatment of the cognitive-behavioral approach for disorders related to the use of substances presenting results of expressive effectiveness in different controlled clinical trials. In a classic systematic review study, Irvin, Bowers, Dunn, and Wang (1999) evaluated the efficacy of relapse prevention considering 26 clinical studies with participation of 9504 patients in total. The results suggested a consistent effectiveness of the approach to reduce substance use and improve psychosocial functioning. These results could be observed in both individual and group treatment modalities and in hospitalized and outpatient patients. The best results of relapse prevention were identified in the treatment of alcohol and multiple substance users,

while tobacco and cocaine users showed less significant results. A meta-analysis with a similar objective corroborates these results, concluding that 58% of individuals who received cognitive therapy based on the relapse prevention model for treatment of substance use disorders presented the best results (Magill & Ray, 2009).

Although some critics of the relapse prevention model point to the lack of importance given to interpersonal factors during treatment (McKay, Franklin, Patapis, & Lynch, 2006; Stanton, 2005), this approach has been successfully used in different cultures (Min et al., 2011).

Conclusion

This chapter briefly presented the application of psychoeducation to the treatment of individuals with substance use disorders. Most of the time this intervention is used in combination with numerous other therapeutic elements and throughout the treatment period, seeking the consolidation of varied information that promotes a better result for each person. The approach strategies, the general education about SUD (with its adaptations of content and form), allied to the greater knowledge of oneself and of its high-risk situations, well represent points in which we are intervening as educational and therapeutic agents, practices that walk side by side in the management of SUD.

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Part V
Public Policies and Social Interventions: The Role of Psychology Professionals

Chapter 23
Participatory Methodologies: Art as a Possible Tool in a Community Approach with Drug Users

María Lorena Lefebvre, Jessica Marcela Rodríguez, and Telmo Mota Ronzani

Introduction

Community approach poses challenges and questions as the social problems with which professionals work have become unstable and multiple and increasingly requiring cross-cutting approaches that constitute a unique architecture for providing answers (Carballeda, 2012). Therefore, the objective of this chapter is to present a proposal of articulation between community social psychology, popular education, and art, as a possible tool in the face of drug use and through participatory methodologies.

The focus is to present a proposal that promotes the recognition of the importance of knowledge and experiences of people in the community, through the implementation of transdisciplinarity in order to perform a pertinent approach to the social phenomenon of drug use. It should be clarified that this is a contribution that emerges from daily work, which does not intend to declare itself to be the only one, nor to present itself in a finished manner. This contribution may be an approach in which the use of resources that make critical reading possible (Gadotti, 2007), discussion and expression of reality in which these people are immersed, with the objective of generating something new "there" where everything seems determined.

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Qualitative Methodologies, Social Sciences, and Psychology

In social sciences in general and in psychology in particular, since the first half of the twentieth century, qualitative methodologies have already been used, although the most widely used in social work were quantitative methodologies because of the influence of positivism. After the Second World War, it became evident that qualitative methodology began to gain ground, reaching its peak with the "crisis" of social psychology in the late 1960s. This occurred due to two main reasons: on the one hand, the process of criticism that social movements made to the positivist hegemony of science, both in the philosophy of science and in the social and human sciences, and on the other, the construction of the legitimacy of qualitative methodologies as producers of scientific knowledge (Costa, 2019).

In this context, qualitative methodologies have gained space because they make it possible to understand and intervene in realities that affect people, knowing and contemplating the context in which they develop and unfold, thus providing other types of knowledge. To this end, professionals, groups, communities, and agents of all types of intervention work "within this reality" to capture and reveal the deepest meanings that structure it and then, together, be able to transform it (Iñiguez-Rueda, 1999). What is sought through these methodologies is understanding, rather than predicting, taking into account a particular sensitivity in four dimensions:

> *Historical* refers to being aware of the fact that social processes are temporary and bear the history that constituted them […] *cultural,* because it requires attention to the fact that each social process is framed in a specific cultural environment. The shared meanings, the system of norms and rules that each culture has built up throughout its history, gives it different characteristics from others, which cannot be ignored in research or evaluation if they intend to be minimally adjusted […] *sociopolitics* implies recognizing that every social practice is framed in a specific political context […] with social and political consequences, inhibiting or promoting social change […] finally *contextual,* refers to the fact that research must consider the social and physical context in which it is taking place. The context is the result of multiple elements, processes and actions, among which the collective action of those who participate in it stands out. (Iñiguez-Rueda, 1999, p. 498)

In this way, it is perceived how the commitment to qualitative methodologies is also related to stimulating and promoting participation of all those involved, at least to a certain extent, in a continuum that goes from the highest level of direct participation to the highest level of indirect participation (Montero, 2012). This participation must be understood as a form of collective action in relation to daily practices in each specific spatial and historical context (Iñiguez-Rueda, 1999). Thus, it can be said that what is ought to contribute to the social sciences in general and to psychology in particular, from these participatory methodologies, is unique knowledge that enables actions in accordance with particular situations addressed. In this specific case, use of drugs, enabling the use of tools that are contextualized and that allow us to understand their use and meaning in each place and historical moment.

Community Social Psychology and Participatory Methodologies

Participatory methodologies are very useful for social psychology and, in its origins, the Latin American Community Psychology has used methods and techniques from this field. It was also based on ethnomethodology, anthropology, popular education, and critical sociology, both processually and in the very conception of the methodological approach (Montero, 2004). From then on, an attempt was made to structure a methodology that meets the need, among many others, to generate approaches capable of changing according to the problem of the study. Moreover, that they are able to produce questions and answers, that are transformed in the same rhythm of the communities and that generate constructions in a critical and reflective action of collective character (Montero, 2004).

Possibly, one of the first attempts proposed and published in Spanish was made by Irizarry and Serrano García (1979), where they described a research drawing that incorporates the intervention and which was later expanded by Serrano García (1992). This design encompasses four fundamental aspects: to take into account needs of both the community and professionals, to systematize experiences, to create a model that allows to address problems in their specific situation, and to make explicit values and principles that motivated the intervention being carried out (Montero, 2006).

Therefore, it is clear that the approach from community social psychology occurs in two moments, which are the research and the intervention with the community. In both cases, the objective is to produce transformations in the community. Its application, while seeking knowledge in order to intervene in the most appropriate way produces changes in this situation. This approach uses, among other aspects, the action-participative research of Fals Borda, which was expanded from the action research created by Kurt Lewin. Through this research process, the transformation and the search for knowledge is oriented as it is transformed and known. It is a "doing doing" (Montero, 2006).

It should be made clear that there are community interventions that are not part of an investigation, but this process refers to the notion of problematization proposed by Paulo Freire (2015), where the reality in which we live is questioned and denaturalized. Action-participative research is one of the most valuable tools of community social psychology, but not the only one.

In this field, it is also necessary to explain that there are general conditions that determine the methodologies used. It is emphasized, mainly, that they must have a participative character and that is why it is necessary to differentiate them from other qualitative methodologies. In addition, there must be a space for discussion and collective reflection, and, contrary to what was mentioned above, "indirect participation" is no longer possible. There must also be a space for exchange and construction between people in the community and professionals, which must be critical so that they generate the possibility of reflecting on what is being done and how the process is being carried out. This whole process must be dynamic and

active in order to be able to transform, using techniques and strategies of action, appropriate to the multiplicity of situations that may arise in community work (Montero, 2006).

Therefore, it can be said that the methodologies used in community social psychology are participatory, since the fundamental requirement is the active and protagonist character of the people in the community together with the professionals (Montero, 2004, 2006). It is from these characteristics that the intervention begins, since the importance of considering subjects as historical and contextualized is understood (Costa, 2019). It is understood that they are subjects who have different knowledges, popular and academic, and that, according to Paulo Freire, it is from them that we seek to understand the psychosocial practices that occur in daily life (Machado, 2017) to produce possible transformations.

It is precisely in this context that one would work with drug users as active participants, through these methodologies that improve the Freirian principle of action-reflection-action. Thus, movements are made possible that include changes in the personal field, in the group, in the relational environment, and, above all, in the consciousness of what happens, in its why and for what, from the voices of the protagonists themselves.

Community Approaches in Solitude or Transdisciplinarity

The proposal made by community social psychology, based on participatory methodologies, is a valuable resource. Through it, the actors in their context are taken into consideration, selecting appropriate methods for each particular situation and bringing together popular and academic knowledge that allow the construction of knowledge and appropriate actions to intervene with drug users. However, to develop tools for such a complex social problem, new forms of dialogue between the different fields of knowledge are necessary, because in the scenario where they will be carried out, the loss of certainties stands out (Carballeda, 2008).

This is "des-disciplinarity the disciplines" (Fernández, 2007) by questioning unidisciplinarity, building criteria that allow the formation of interdisciplinary work teams to achieve the production of transdisciplinary knowledge and practices. This is not a simple task and involves critically questioning our individual and collective processes within each profession, but without losing specificities. What is sought is to open in the work teams their frame of reference. It is understood that groups with which professionals work, in this case drug users, cannot be reduced to being understood and approached from exclusively unidisciplinary practices, because there is a risk of incurring psychological reductionism with the consequences that this entails (Fernández, 2011).

Therefore, the proposal of the community approach is transdisciplinary, because it is understood that "as the prefix 'trans' indicates, it is what *is* at the same time *between the disciplines*, *through the* different disciplines and *beyond* all disciplines. Its purpose is understanding of present world in which one of the imperatives is the

unity of knowledge" (Basarab, 1996, p. 37). To achieve this unity, it is necessary to create conditions for the articulation of knowledge, both from different professions and from the community, where local contacts are prioritized according to the situation and not in a global way, resulting in generalization (Inglott, 1999). The aim is to generate a "toolbox," where what is provided are tools, which include the social, historical, and cultural dimension, to build new ways of articulating the "one" and the "multiple," in order to be able to account for the multiple crossings and consequent implications of the phenomenon addressed (Fernández, 2011).

In this particular case, the proposal is thought from the intersection of community social psychology, using participatory methodologies, especially popular education, and art as a tool. According to previous experiences, one can affirm that art is a possible and enriching form of intervention for all participants and that, in turn, it is an articulation that makes possible the community approach to the social phenomenon of drug use, in its complexity.

Here it should be made clear that the breadth and depth of this phenomenon is understood, but in this opportunity the social aspect will be deepened, starting from the understanding that social ties build people and vice versa and that an identity, a sense, and a place are forged in this dialectic; that is, they are part of the subjectivity of each one (Carballeda, 2008). Therefore, it is necessary to contemplate the social and cultural in order to understand and approach drug use with special emphasis on the social determinants that are related. Although it is a fact that this phenomenon is present in different parts of society and in different contexts and that there is no simple relationship between cause and effect, there are determinants that increase the social burden of this behavior. Among them are race, gender, unemployment, housing, and education, and if these are taken into account, one can present proposals close to these realities (Ronzani, 2018).

As mentioned earlier, it is not an easy task. It entails various risks or obstacles, which will not be possible to develop on this occasion, but it is necessary to address them in order to create possible ways for the community approach to drug use.

The Art, the Arts, Our Art

Before proceeding, it is necessary to explain why art is considered a possible tool. Art and human beings are inseparable. There is no art without human beings, but perhaps there is no human being without art either. Through it, the world becomes more intelligible, accessible, and familiar. A perpetual exchange is generated with what surrounds them, to such an extent that the isolation or the population that does not express their art may be threatened by this lack of expression (Huyghe, 1965).

Another important point refers to what is understood by art, because there are those who understand it as an identity, as a body of stable, trans-historical, almost immutable values. Others, in turn, see it as something dynamic and in a continuous process of modification, which identifies itself with the social groups in which it is created and recreated as a unit (Acha, Colombres, & Escobar, 2004).

Here, the second vision was chosen, which considers art as a historical, dialectic, or changeable product and as a way of being able to know the world and, in a certain way, to change it through the productions that are made through it (Acha et al., 2004). Such position is justified by the understanding that certain dominant sectors define what is identity related to art and present it as something universal, unquestionable, as it is a construction of a historical, cultural reality and of certain social groups.

In this way, what is sought is to be able to visualize from which history it is spoken and to evidence that it does not belong to us and, from there, to build our history from the complex structure of our Latin American culture (Acha et al., 2004). This is how this process and product that is art, dialectic, and socially constructed invites us to establish contact with other people to exchange meanings and stories, build other ways of expressing ourselves, create and recreate reality, and share and transmit culture.

The versatility of art allows us to think of it as a tool in which a culturally situated proposal is intertwined, which is genuine and creative for its resources. Art must be understood in a broad sense, in which its diversity is considered, and, therefore, one cannot speak of art, but of arts.

In this case, to use it as a tool for a community approach, this chapter will speak specifically about popular art, distancing itself from the idea of the universal and indisputable in history itself. "What characterizes popular art is its capacity to aesthetically express certain historical situations from the perspective of a community, which recognizes itself in its signs and uses them to understand these situations and act upon them" (Acha et al., 2004, p. 153). Thus, popular art allows us to approach the problems that occur to subjects from a perspective that is integrated with their daily and cultural environment and allows consciousness to inquire about aspects of the world that have not been questioned or experienced previously, at least in a conscious manner. Furthermore, it allows the use of the imagination as a means of exploring new forms of expression (Eisner, 2002).

One can thus enumerate several possibilities that art and popular art bring: access to new and different types of language that allow channeling, communication, and expression of emotions, feelings, and thoughts; link to one's own identity; exercising skills and developing abilities in a playful context; stimulating participation; favoring the bonds between peers, since it allows another form of communication than language; accepting diversity; as well as preserving the collective memory. It is so flexible that it allows one to adapt to a variety of contexts and situations, promoting development of innovative ideas and formats that collaborate to meet needs, stimulating processes of innovation in the community environment (Wajnerman, 2009).

As you can see, art presents great richness if it is used as a tool in the community approach, both for its various contributions, as mentioned, and for its versatility. Art comprises a wide variety of manifestations, such as theater, literature, music, and puppet construction and management, among others, which allow it to adapt to each group, each community, and each context, respecting its reality and culture and enabling interventions from transdisciplinarity.

From this perspective, one can see how, in this complex, heterogeneous, and unequal world, art offers the community in general and people who use drugs in particular new ways of understanding, expressing, and acting in their own history. Simultaneously, art rescues them and stimulates their capacity to be critical and creative, in addition to being able to mobilize their conditions of existence (Hillert, Loyola, & Alonso, 2014). Finally, it allows them to be and participate in the cultural construction, developing new forms of expression to be heard by others and by themselves.

Meeting Points Between Participatory Methodologies, Art, and Drug Use

Initially, it is necessary to differentiate among methodology, method, and techniques. According to Iñiguez-Rueda (1999), methodology refers to the set of theoretical, conceptual, and technical means that a discipline needs in order to achieve its objectives. The method is understood as the paths, operations, and activities that, governed by specific norms, enable the knowledge of social processes. Finally, techniques are the procedures that enable the production of information.

In this way, one notices how participatory methodology is the way in which one thinks, analyzes, and plans actions (Pansza, 1996). Through it, the starting point is not disciplinary knowledge, but the knowledge, feelings, and problems of people immersed in a particular context, in an attempt to have a transdisciplinary approach with a protagonism and intense participation of all those involved (Fernández, 2009). Thus, the method is that of popular education, which is based on its dialectic character through reflection-action (Gaitán Riveros, 2003) *with* the community. The technique, in turn, will be art, as an indispensable tool, enabling contact with everyday life, the immediate, within the group, the collective, historical, and structural (Alforja, 1994). The union of both can be capable of approaching the social phenomenon of drug use and building with these people viable possibilities to transform their reality.

> It is a complex dialectic-practical-practical process in terms of awareness, which is not just knowledge or intersubjective recognition, but option and commitment, to project oneself into a future of man-projects seeking to share the truth communally without recipes. (Torres, 2001, p. 37)

There are some points that structure this approach. On the one hand, the proposal is placed in a specific context, based on what the subjects immersed in this reality transmit. On the other hand, there is a transfer from the individual to the collective. Here, the participatory takes on value, since the transformation is not only focused on individual achievements and out of context (Freire, 2014). This approach acquires value for its transforming power at the individual, group, and community levels, since it allows for another way of looking around and looking at oneself, linking oneself, channeling needs and desires, and has the capacity to transform social

representations and imaginations. Furthermore, it constitutes itself as a shared space of creation, which transcends discourse and forces the body into action, together with others. In other words, it gives the possibility of repairing the social fabric, so fragile and sometimes even broken by social problems (Bang & Wajnerman, 2010).

At this point, for practical purposes, we take up what was developed in a chapter of this book "Community Social Psychology: Contributions to Understanding and Practices on the Care of People who Use Drugs." What is proposed here is to use art as a possibility of approach during the strategic planning phase and its execution, based on the information built collectively in the phase of participatory diagnosis and familiarization. All these phases have been presented in detail in the aforementioned chapter.

But how is that done? Based on this methodological approach, the workshop format is the device with the greatest richness for the work in the communities, since it promotes participation, an active role in the meeting and exchange, facilitating the circulation of experiences and the use of various techniques (Fernández, 2000). In addition, it contemplates what happens in the community and allows for the unfolding of transdisciplinarity in addressing the phenomenon of drug use.

> We understand the workshop as a pedagogical device, a tool of Popular Education, with an enormous richness in terms of developing processes of interpersonal relationships and social learning, since the tasks are presented as a combination of individual and group activities, allowing the construction of representations both personal and shared, in a work of permanent elaboration from moments of communication, dialogue and discussion. In other words, it is a strategic space that allows modifications, both in theoretical frameworks and in relationships, both emotional and social. (Hernández, 2009, p. 72)

In workshops, spaces are promoted for questioning reality, ways of doing and thinking instituted and naturalized, in order to reflect, understand, become aware, and elaborate possible actions, from the exchange that arises among the participants. In the community approach with people who use drugs, this device allows the encounter with others, the possibility of exchanging their feelings and thoughts. It allows them to go beyond the stigma that comes from their drug use, giving them the possibility of being who "says" and who "listens," without having a single type of "language" or form of "expression."

These spaces, in turn, enable collaborative learning, in which a space of encounter and development is originated, which makes it possible to potentiate capacities. It is a follow-up carried out through the construction of a new group of belonging, with others with whom one finds oneself sharing this space-time. This is fundamental for this social phenomenon because it develops and practices the welcoming, mutual enrichment, and production that are carried out by being part of a group (Sagol, 2011).

These workshops use as central tools the art and participatory techniques for planning and preparing proposals for intervention. For that, it is necessary to elaborate a project in which a series of variables are taken into consideration: the objectives we establish; characteristics of the people we will work with (their knowledge, experiences, problems and difficulties, resources, group spirit, etc.); possibilities of implementation, both material and contextual; our formation and capacity as

coordinators of the group; as well as our ethical position from which we will carry out the activity (Toledo, 2002).

Based on this, the participatory techniques to be used are selected, and this is where art, for these particular people, drug users, is a possibility. They present themselves as a force that impels communication, creativity, and the construction of other modes of expression, thus generating conditions for the emergence of new subjective processes (Bang & Wajnerman, 2010).

Therefore, to intervene, with these methodologies, methods, and techniques is to try to rewrite the texts and scripts that are presented as almost static, as scenes marked by a "natural determinism," or should one call it social? From these other "languages" we can write new individual traits and group plots, which have the mark of one's own, of the genuine, revealing and building new ways of seeing, thinking, and acting on this social phenomenon.

The proposals are diverse from the arts, as mentioned in the previous section, and the choice will be according to the group and the reality with which one works. Each manifestation of art has its distinctive characteristics, being linked to the others by its extensive and enriching contributions. Here only a few will be mentioned, with little depth, just to be able to situate in the proposal that was made. Theater and body expression make it possible to unveil the learning that is done by the body itself (Pinheiro & Colaço, 2010), as a product of social relationships, and allows exploring, entering the skin of others who give permission to say or do things that people would not do being themselves. This interaction of postures, gestures, looks, and voices materialize, allowing the body and mind to find great expressive freedom (Calmels, 2016). Literature gives the possibility to play with words, whether to create/invent texts, songs, proses, or tell stories. It also allows a series of chain reactions, because they are not just written words, but sounds, images, memories, and dreams, in a movement that puts experience, memory, fantasy, possibility, reality, and necessity, in an exercise that mobilizes the mind before representation and then in action (Rodari, 1983). Music, in turn, offers the possibility both of learning an instrument and composing music or using the voice to sing and of being able to connect with forms of expression of reality that lives and in which it lives. It is the expression of this subjectivity and social construction, crossed and marked by specific times and places, by beliefs, values, and hopes; it manifests the human context that arises and exists, shared with other people. Saying has a "skilled language" and a sound that frames it (Pérez-Aldeguer, 2014).

There are other resources, such as manufacturing objects of different materials, ceramic creation and modeling, making and handling of puppets, which allow people to express themselves through the construction of a product. In addition, there are also the rounds of exchange of music, stories and legends, and literary fragments, from which it is possible to resume their own experiences, personal memories, childhood games, fears, discoveries, problems, and concerns, in order to enable a re-elaboration.

In short, in each meeting based on art, the aim is to generate instances of problematization, of awareness, through which other ways of expression are found, consisting of artistic production (Wajnerman, 2009). In this context, there is a place in

the scene for those who feel available for it, respecting times and spaces and enabling the construction of a healthy space through progressive involvement/participation (Rodari, 1983). Not only the part affected by this social phenomenon but also the individual and the group as a whole are considered.

So it is not about detecting what is out of the norm or what is "dysfunctional" for people to use drugs, but it is about starting a path in search of that uniqueness related to their talents, their abilities, and their potentialities. It is about being able to facilitate the expression of the "own" and the "collective." For that, community approaches related to drug users must understand the need to place them back in the realm of rights, incorporating the difficulties of context, so that they can rebuild with the users (Skliar, 2011) their own trajectory (Terigi, 2012), being able to use art for that. An attempt is made to create space so that the art, proper and unique to these people and this community, finds healthier means of expression. An attempt is also made to examine through these participatory methodologies the possibility of new forms of attachment, according to their reality and territory, to reconstruct some often fragmented instances of socialization in order to strengthen and promote transformations (Carballeda, 2008).

Final Considerations

Today's society is characterized by the fragility of ties and the disarticulation of community organization spaces. The generation of individual and collective artistic processes contributes to communities being subjects (not objects) of transformation of their own realities (Bang & Wajnerman, 2010).

Community work is crossed by this context, in which the reality of social inequalities, the forms of suffering and how they express themselves (in a large number of cases of drug use), challenge day-to-day practices (Gentili, 2001). Ways and tools are then sought to create, learn, share, and build other possible ways. It is through the spaces, which are sometimes inhabited by dialogues or by presences and acts, that the processes of reflection and action are generated (Carballeda, 2008).

On this occasion, to present art as a possible tool is to think, as Freire proposes, with this hope that is not naive, but also not abandoned, that denaturalizes, problematizes, questions, and makes visible what is being "silenced." It is about using resources that make possible forms of expression of these inequalities and their effects in the context of drug use through art and culture, relating and building what is ours and what is collective, as a way to fight against cultural fragmentation, through possible and active responses.

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Chapter 24
Psychology and Harm Reduction

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Introduction

The consumption of psychoactive substances accompanies the history of mankind, specially within different cultural peculiarities. The Greek civilization attributed to drugs, with the expression *phármakon*, the meaning of medicine as well as poison, and the boundary between them would be specified by the dose. The absence of clear regulation on drug use in antiquity is justified by this lack of moral valuation. However, as the Roman Empire became Christian, which repelled the use of any resource in rituals of pre-Christian religions, associating them with sin, deviation, and witchcraft, this absence of control ended (Pratta & Santos, 2009; Slapak & Grigoravicius, 2007).

In the nineteenth and twentieth centuries, there was a growing moral condemnation of the consumption of certain substances associated with marginalized and discriminated populations and social sectors, especially in the US society, such as Afro-Americans and Chinese and Mexican immigrants. This concept became hegemonic, politicized, and inflated, without a critical inflection regarding its consequence on xenophobic behaviors and cultural wars over the years (Aggarwal et al., 2012).

Subsequently, as the medical prescription monopolies and the production of the pharmaceutical industry of some substances have established, self-administration was rejected, the nosology and the diagnosis of mental disorders were related to the use, abuse, or dependence on psychoactive substances, being registered in psychiatry manuals, which, for Slapak and Grigoravicius (2007, p. 27), are considered "a

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scientific basis for the moral order of drugs," thus producing a dichotomization between good versus bad substances, legal versus illegal (Aggarwal et al., 2012).

This construction was based on the production of scientific discourses that support the formulation of state policies and actions from an idea of a global war on drugs, transforming trafficking and usage as enemies that must be eliminated from society. They focus on reducing demand and supply through repressive police actions, in order to end the production, trade, and consumption of psychoactive substances considered illegal.

Since the beginning of the twentieth century, several countries have adhered to international conventions based on these conceptions. For instance, Brazil aligns its legislation with the initial positions of these policies, which include the link of drugs to crime (Gomes, Pires, Soncini, & Silva, 2018; Machado & Miranda, 2007; Passos & Lima, 2013).

The three United Nations (UN) conventions—1961, 1971, and 1988—are considered international milestones for the classification of psychotropic substances, production control, trafficking, and illegal possession (Araújo, 2019). They bypassed the proposition of health care, which occurred in a transnational manner, disregarding the specific ways in which drugs are used, the social context of their use, and the subjectivities of their users (Passos & Lima, 2013).

For Baratta (1994), the criminalization policy of certain drugs constitutes a self-referential system that reproduces itself ideologically and materially and that: (a) considers dependence as an inexorable consequence of use; (b) links people who use and have problems with drugs to a subculture that differs from society's normative standards; (c) establishes a causal correlation between use/dependence and other deviant behaviors, such as crime; and (d) believes that the state of psychophysical illness of dependents is irreversible.

It is known that the larger part of illicit drug users is not addicted, part of a deviant subculture, delinquent, antisocial, or sick. However, in an induced way, such a policy increases the number of addicts, marginalized people in subcultures, and lawbreakers in criminal careers (Baratta, 1994). The author also warns that, despite the pharmacological nature of the substances, their effects on health and the risk of dependency, there are other extremely relevant factors, such as the characteristics of consumption, psychological conditions of the consumers, and the social context in which they are inserted, indicating thus effects that would be secondary, perceived as social costs of the criminalization of drugs.

These side effects can extend to *consumers* (stigmatization; quality of substances available on the streets; hygienic and living conditions in which consumption takes place); *to their social environment* (affected by stigmatization, which creates suffering for families, especially in more privileged families, where some description is possible); to *the criminal justice system* (mass imprisonment and degeneration of the system with illegal practices, violating the principles of the law); to *alternative care systems for drug dependents* (therapeutic-assistential and educational care, with contradictory conditions, access barriers); and to *the effects on the drug market* (price, exploitation, repression) (Baratta, 1994).

Only in the late 1980s the Brazilian government began to outline initiatives that consider drug consumption as a public health problem. But they faced legislative and cultural obstacles, which established a set of organized civil society institutions to "save, recover, treat and punish" legal or illegal drug users (Machado & Miranda, 2007, p. 804).

The process of political opening in Brazil after the military dictatorship, which ruled from the 1960s to the 1980s, was contradictory. One of the contradictions was the permanence of authoritarian practices within the democratic state itself, especially regarding drug policy. It led to impasses for the democratization and the establishment of equal, integral, and universal access to health for drug users. It was worsened by the failure of the "economic miracle," which brought about the population explosion in urban centers, the expansion of poverty belts in the peripheries and slums (Passos & Souza, 2011).

Despite the large financial investment in repressive policies, drug consumption has never decreased anywhere in the world; it changes only the type predominant in each context. The prohibitionist model was put into question, and possibilities for new practices were opened up in different countries, such as Austria, Belgium, Denmark, the Netherlands, Portugal, Spain, and Italy. The latter three countries' legislation aimed at the decriminalization of users or even the legalization of drugs (Araújo, 2019; UN, 2015; Passos & Lima, 2013).

In Latin America, this paradigm shift can be seen in the final report of the Latin American Commission on Drugs and Democracy. The report claims that the prohibitionist policies adopted in the region not only have not reached the expected results, but rather have even moved away from the objective of eradicating drugs, and concludes that it is necessary to revise the war on drugs strategy (Latin American Commission on Drugs and Democracy, 2009).

The global demand for procedures to fight HIV infection was important for this shift, developing strategies based on scientific evidence to protect and reduce the vulnerabilities of drug users, gradually compromising countries with balanced and integrated strategies to reduce the negative social and health consequences related to the use of substances, and its association with contexts of social fabric shattering (Araújo, 2019).

In 2015 world leaders at the UN summit committed to Agenda 2030, which aims to eradicate poverty, to protect the planet, and to ensure that people achieve peace and prosperity, representing the possibility of reorienting drug policies, especially those aimed at groups most impacted by essentially punitive policies. This commitment has the purpose of reducing inequality, promoting gender equality, and promoting peaceful, inclusive, and just societies (Araújo, 2019; UN, 2015).

As a result of a critical approach to the prohibitionist and criminalizing model of drug policies and also to the capitalist consumption patterns, the harm reduction perspective has been forged from the bottom up, based on the experiences of inclusive and citizen-centered care that trust people and their rights, implementing egalitarian and democratic approaches effective (Bastos & Alberti, 2018; Canty, Sutton, & James, 2005; Tammi & Hurme, 2007).

The medical prescription and discussion of opiates use are considered pioneering strategies for the treatment of drug users in the Rolleston Report in 1926 in England (Bastos & Alberti, 2018; Queiroz, 2001). However, it is in the context of the HIV/AIDS epidemic that innovative health programs are disseminated worldwide, from Europe and Australia, addressing the prevention of diseases related to injectable drugs consumption, through needle exchange. These initiatives arose from the articulation of user associations (Berridge, 1993; Passos & Lima, 2013; Ribeiro & Araújo, 2006; Stimsom, 1998).

In the USA, the *outreach work* initiated, about the "field *work*" with sodium hypochlorite for the disinfection of needles and syringes, resulting in the expression *harm reduction* (Filho, 2019).

Harm reduction came to Brazil in the late 1980s, when local initiatives began in the cities of Santos, São Paulo (1989), and Salvador, Bahia (1995) (Filho, 2019; Passos & Souza, 2011; Santos, Soares, & Campos, 2010). The first initiative implemented a state policy of needle exchange, interrupted by judicial decision, by means of an interpretation of Law 6368/1976 (Brazil, 1976), which considered the policy as encouragement of drug use, "without considering that, in addition to this clinical act, exchanging syringes, the workers sought to achieve and establish affective ties with invisible people, practically deprived of all rights, 'killable human waste,' without any possibility of access to the public health system" (Filho, 2019, p. 5). The second was developed by an extensionist activity of the Harm Reduction Program of the Center for Study and Therapy of Drug Abuse (CETAD), based in the Federal University of Bahia and the first street clinic in the country.

According to a 2018 study conducted by a Dutch nongovernmental institution and the principles listed by the International Harm Reduction Association (IHRA, 2010), good harm reduction practices should include low demand approaches, strategies to go where people are, information and materials developed based on the demands of people who use drugs, provision of outreach and mobile services, peer involvement as part of teams, and ensuring that people have access to other equally relevant actions. In the same way, the following are pointed out as factors to be considered in the management of individual and social harms: unemployment and poverty, precariousness or lack of housing, violence, imprisonment, impurity of substances, lack of qualified harm reduction services, drug laws, and public policies (Araújo, 2019).

The perspective of harm reduction, therefore, requires the development of innovative, more effective, and inclusive strategies, rather than the imposition of abstinence through moral treatment and forced admissions (Bastos & Alberti, 2018; MacMaster, 2004; Wodak, 2009).

Recently, harm reduction has been understood as an ethic of care, which includes a multiplicity of senses, distinguishing itself from the moralizing-criminal and pathological-prescriptive approaches. Considering that drug use is multidetermined, open listening becomes necessary, if we want to broaden perspectives and possibilities to overcome the expectation of abstinence as a principle or the only result sought in clinical practices. The efforts must be directed toward the defense of fundamental human rights and the expansion of life (Lancetti, 2015; Petuco, 2011).

Psychology, as a field of knowledge and practice of care, can contribute and co-produce in the perspective of harm reduction. In this chapter, we present the state of the art of psychology's academic-scientific productions on drug use. We seek to identify their main theoretical-conceptual affiliations and to propose ethical-methodological approaches.

Psychology and Harm Reduction: Information for Clinical Guidance Facing the Drug Use Phenomenon

We have tried here to identify the paradigms in which the knowledge produced and the existing contributions of psychology regarding drug use are based. Recognizing the already existing productions is fundamental to move forward the discussions concerning a psychology that proposes ethically the harm reduction.

Paradigms can be understood as "a set of interconnected assumptions related to the social world, providing a philosophical reference for the organized study of the world" (Onocko-Campos & Furtado, 2006, p. 1056), in which the following questions would be present and interconnected: ontological questions, related to the constitution of social reality; epistemological questions, related to the conditions that sustain the construction of human knowledge; and *methodological ones*, which refer to the procedures to be adopted for the analysis and understanding of the subjects of research. Fossey, Harvey, Mcdermott, and Davidson (2002) point out three major paradigms of social research, namely, the *empirical-analytic*, which seeks to discover the natural laws that allow for the prediction or control of events; the *interpretative*, which seeks to understand social life and describe how people build social meanings; and the *critical*, which seeks to find out myths and hidden truths that underlie social relations and enable them to radically transform society. The difference between these paradigms rest on philosophical/theoretical origins, their objectives, the nature of social reality, the nature of human behavior, the role of common sense, and what they acknowledge as an explanation/theory of social reality, what they consider to be a true explanation that produces good evidence, by privileged voices, by social/political values in science, and by the place of ethics in research.

Although we recognize the fine line that keep these paradigms apart and the intersection that some theoretical-philosophical traditions have, if we systematize the main scientific productions in the field of psychology about the phenomenon of drug use, we can notice the predominance of the interpretative and critical tendencies.

Under the *empirical-analytical* paradigm, we have identified some epidemiological studies that have been developed, some of them aiming to characterize especially the profile of drug users, having in the people themselves, the privileged voices to inform, even if the analyses do not include their participation, being considered a technical attribution of the researchers. In convergence with other studies, these studies show that, although mortality rates of crack users are high, the users remained alive for long periods; the deaths were due more to external causes, such

as involvement with trafficking, point-of-sale disputes, fights with the police, and acquired immunodeficiency syndrome, than due to the damage caused directly by the drug effects on the organism, even regarding daily users of crack (Sayago, Lucena-Santos, Horta, & Oliveira, 2014).

A study carried out by the *Instituto para el Estudio de las Adicciones* de Barcelona in 2004 sought to understand the effects of illicit drug use on health conditions, which was shown in mortality rate and years of life lost due to disability. The study revealed that these effects are less found than in the consumption of legal substances such as tobacco and alcohol, with 12% of deaths per year related to legal drugs (8.8% to tobacco and 3.2% to alcohol) in comparison with 0.4% related to illegal substances, such as cannabis, ecstasy, cocaine, and opiates. It also points out that legal drugs cause 30 times more deaths than illegal drugs, and the authors conclude that the proportion of mortality and morbidity caused by legal drugs is directly related to the extent of their consumption in the general population (Slapak & Grigoravicius, 2007).

The affiliation to the *interpretative* paradigm was identified by studies that aimed to understand and discuss social representations and the attribution of meanings to drug use, through historical and cultural rescue, as well as the living experience of people, groups, and communities. Such efforts recognize that the values present in the society involves the individual and he takes part in the processes of meaning—at the same time that he has an autonomous psychological context, he is influenced by the representations of society and culture (Andrade, Alves, & Bassani, 2018).

For Slapak and Grigoravicius (2007), social representations build socially shared symbolic territories, which support the production of people's everyday practices; the social representations give meaning and evaluate objects and phenomena from certain notions and values, such as what is good *or bad, normal and deviant, and acceptable and not acceptable*. Based on this framework, the drug use is conceived as a phenomenon involved in a cultural and social context. These representations may be related to the sacred, to sources of pleasure and pain relief, or other negatives, which escape the scope of certain cultures and social contexts and may be understood as obscure and sinful intentions (Andrade et al., 2018; Slapak & Grigoravicius, 2007).

In research on adolescents in deprivation of liberty due to an infraction act typified as drug trafficking, it was found that the adolescents considered the drug as devastating, causing serious health consequences, from serious organic problems to memory problems that affect school life: "A person who uses drugs gets thin, become weak, does not have the agility to run, gets tired quickly" (Andrade et al., 2018, p. 442). Moreover, they consider the need to obtain drugs as the deviant and delinquent behavior. In other words, the subjects believed that drugs, especially crack, strongly influence the lives of their users to the point of changing them, what would lead to law infractions. The authors refer that this is due to an assumption of inability of fighting against his state of dependence attributed to the user, discrediting him in his own recovery.

Faced with the real consumption made by them, the authors recognize the process of socially elaborated and shared signification, reflecting values circulated in

the media, in a mutual influence of both universes. The negative representation of the drugs by adolescents, however, was not enough to avoid the use or experimentation: 72% of the interviewees had made or were making use of some illicit drug (Andrade et al., 2018).

The concept of risk came out in international studies in a polyphonic way (Shepard, 2013). They were understood as a by-product of social disorganization and isolation; as a response to social integration or limited solidarity; as a way to connect with other people involved in the same activities; as a means to produce sensations and emotions, even when they may end up hurting us. Drug use—and sexuality well—would be a means of pain rejection and structures of a normative social order, finding pleasure precisely in the loss of connection:

Sometimes looking death in the eye makes you feel more alive. Many risk-takers advocate getting the most they possibly can get out of life while turning away from the bland middle of the road. Here, the capacity to elude death or injury through their own preparation, skill, and knowledge provides a feeling of agency, a sense of greater control and mastery. Some of these forms of risk offer powerful social rewards and the possibilities for joy, as well as sanction for activities deemed antisocial (Shepard, 2013, p. 2). Another research on primary health care, the privileged voices were workers of the Family Health Support Centers (NASF), in order to identify how harm reduction (HR) was understood. Just over a third of the interviewed workers said they knew about the harm reduction proposal, while a quarter never heard of it, even though several government documents and training courses have been carried out over the last few years, with harm reduction as a guideline for care in public policy. Similarly, although it is widely reported that only a part of the drug-using population develops problems with its use, 68.42% of the interviewed believed that any use of a drug, licit or illicit, is problematic to the user. A piece of information that could highlight the approach of the health perspective over the traditional policial one is that almost 70% of the workers claims that more preventive, social, and cultural interventions are needed, and the "drug problem" is not solved through repression (Lima, Oliveira, & Lima, 2019). The *critical* paradigm is composed by articles that highlight the effects of the prohibitionist perspective on drug policies and on the experiences of people who make harmful use, based on two explanatory models: the moral/criminal and the disease. For some authors, the consequences would be the recurrent users' submission to the power of criminology or psychiatry, which culminates in their incarceration, either in prison or in a hospice, and the therapeutic communities are considered as the amalgam of these institutions. Such studies understand the epistemology of criminal law and psychiatry as a disciplinary power, which operates through the normalization of deviant conduct, conceiving the criminal, the insane, the delinquent, the "junkie," as subjects of intervention (Bastos & Alberti, 2018; Passos & Souza, 2011). Passos and Souza (2011) adds to this problematization another element that does not exclude discipline, but complements the structural basis of these institutions: religious morality, which would justify the ascendancy of the churches to the users "much more for the problem of pleasure than exclusively for the problem of reason" (p. 157).

The concept of consumption is thus immersed in meanings that generate and reinforce prejudices, instead of bring attention to behavior change (Pratta & Santos, 2009). By stigmatizing people who use drugs, instead of discouraging consumption, one ends up reinforcing it, in a continuous downgrading of self-esteem, denying social acceptance, inducing a group identity (Lima, 2008).

The link between prohibitionism and the war on drugs removes responsibility for proposed actions with singularities and peculiarities. People who consume drugs are immediately seen as *addicted*, whatever the substance, frequency, or dose of consumption, disregarding personality, socioeconomic characteristics, and the circumstances of consumption—to sum up, it is a simplification of a complex problem (Slapak & Grigoravicius, 2007). This movement produces similar reductionist responses, still inscribed in a cultural context: "a society that revolves around the value of individual freedom associates the problem of substance use with a certain loss of that freedom, of the individual's capacity for self-determination; hence the slogans of the type 'slavery to drugs'" (Slapak & Grigoravicius, 2007, p. 245). "It is as if the use of crack annulled in a single stroke the subject, both in the psychoanalytic sense of the term, subject of the unconscious, when becoming an object of use possessed by crack, as well as the subject of law who, differently from the others, must not then circulate on the street" (Bastos & Alberti, 2018, p. 217).

Contrary to the statistics, the discourses focus on prohibited substances, with emphasis on their negative consequences, thus generating the highest sensitivity of the population. They associate themselves with citizens' insecurity, violence, and social and moral danger and interfere in political decisions (Slapak & Grigoravicius, 2007). The marginalization or identification of certain groups as deviant is a social construction, in which people who use drugs are classified as criminals or ill people, as objects with moral and spiritual failure. Thus, judging them as an object, they are no longer considered citizens and subjects of rights and choices (Bastos & Alberti, 2018; Marlatt, 1999; Tammi & Hurme, 2007).

Such constructions are reified in clinical practices in the difficulty of the teams in making viable therapeutic processes in the midst of the announced need for personal and institutional rigidity. They build up salvation rules and protocols regarding people who use drugs, often dressed in a scientific discourse that tries to legitimize abstinence as the exclusive therapy to be adopted (Silveira, Rezende, & Moura, 2010). In general, the demands for hospitalization are the reason for the direct association between violence and drug use, "criminalizing and taxionizing the user, producing and/or reinforcing subjectivities and ways of living" (Bastos & Alberti, 2018, p.216).

On the other hand, the studies have identified in the harm reduction policy a possibility of shedding light on the harms caused by drug use, even though it is recognized that not every use is harmful (the world without drugs is not the direct opposite to the world with drugs, besides reiterating the inclusive assumptions of mental health policy, even with crossing the logic of exclusion, in the case of drug users (MacMaster, 2004; Tammi & Hurme, 2007; Wodak, 2009).

Ethical-Political Aspects for Harm Reduction

For a harm-reducing clinical practice, it is essential to call into question the Cartesian dualism of mind and body: it considers "the body as a machine, which could be explored and studied" (Prata & Santos, 2009, p. 205). Then we question the limitations of these clinical models, in which the decipherment of the symptom is the center, by developing a system of classification and ordering of diseases, locating in the body the "anatomical injury." Such a model seeks to make social control engendering techniques that transform bodies into objects of knowledge marked by normative ideals that help in the description, identification, and thus their modulation (Aggarwal et al., 2012; Foucault, 1999; Prata & Santos, 2009).

> The hegemonic and propagated model of clinic coincides, in some of its roots, with epistemic principles that privilege the dichotomization between subject and life, conscious and unconscious, interiority and exteriority, clinical and political. Based on the belief of a neutral posture, it seeks to produce the "correction" of what it understands to be deviated and out of the norm. It is nourished by the representation of ways of being considered ideal and that, from the top of its certainty, constitute and impose themselves as models of identification to be reproduced in the name of order and well being (Fonseca & Kirst, 2004, p.30).

The use of drugs—the action of a subject—is then characterized as an entity: drug addiction and/or substance dependence. This phenomenon ends up depriving the subject of action of care in relation to the use of substances, since this action becomes an entity that controls it, external to the subject and embodied by the medical-clinical normative ideology (Birman, 2007). Such norms fit into the "treat and street" conduct, which considers the subjects on the sidelines in all their complexities, and build a clinical practice that seeks a cure for substance dependence primarily based on the social reclusion of deviators (Araújo & Costa, 2012; Passos & Souza, 2011; Prata & Santos, 2009; Rinadi, 2006).

The prohibitionist logic reinforces the consideration of the symptom as a guideline for the caring of the users of alcohol and other drugs. This brings about a clinical procedure for the regulation of this use as an almost absolute therapeutic of care, that is, abstinence. Thus, care is placed in an institutional perspective that creates normative devices for control (rules, norms, etc.) and treatment (isolation, electric shock, etc.) "that aim at the dissolution/healing of the malaise or the exclusion of the intractable" (Romanini & Roso, 2012, p. 347).

This paradigm is centered in the psychiatric hospital and in its modern forms, such as the Communities and Therapeutic Farms, in which one notices an interference of the Criminal Law in the offer of care and in the clinical procedures directed to people who use drugs. These institutions represent an approximation between legal and medical practices and impose a delimitation to the field of health and in a series of retaliations to the actions of harm reduction in Brazil. Abstinence then is an institutional circuit that delimits a form of coercion in that it states as the only possible direction the cessation of drug use, subordinating the field of health to legal, psychiatric, and religious power (Passos & Souza, 2011).

Based on the concept of health as an instance that composes physical, social, and mental well-being, as proposed by the World Health Organization in its Magna Carta (WHO, 1948), the understanding of the binomial health disease is considered as a dynamic process, which manifests itself in a given context under the presence of various factors of the human condition. Thus, a psychosocial model presents an integrative approach that considers health a social product, influenced not only by biological factors, but also by social determinants that are present in human beings' lives, such as food, education, work, basic sanitation, and leisure, among others (Pratta & Santos, 2009).

According to Romanini and Roso (2012), we can assign roles to institutions and/or organizations, regardless of their character, that, on the one hand, are roles of regulation and normalization of social life, establishing rules that set boundaries between the normal and the deviant, pathological, and, on the other hand, are an attempt to reduce the feeling of helplessness, inherent to the human condition. Thus, "institutions are expected to create reasonable structures of support to appease the sensations of absolute chaos and destructiveness of relationships" (Romanini & Roso, 2012, p. 346).

In this sense, to think about the ethical-political positioning of care for people in use of substances intends to understand which ideas of health, illness, subject, and care are being linked in daily practices, since the prevailing discourses at a given social moment induce the way in which a given phenomenon will be treated (Araújo & Costa, 2012; Bastos & Alberti, 2018; Nascimento & Bandeira, 2018).

Psychology, then, as a social science applied to health, must understand that the paradigms combine specific techniques and knowledge in the search to solve certain problems and attend to certain phenomena. In the case of drug use, it composes itself with a multiplicity of discourses, professional practices, techniques and judgment, systems that translate a certain *ethos and* thus, with an important role in the production and agency of subjectivities in the contemporary, with impact on medical practices, care, and health management related to them (Fonseca &. Kirst, 2004, Nascimento & Bandeira, 2018;). Therefore, it is up to professionals to constantly review their place in the relationship with users, overcoming the subject's ideology as an object of intervention, and strengthening the values of citizenship, the construction of autonomous, integral, active subjects, with their own stories and experiences (Prata & Santos, 2009; Rinaldi, 2006; Romanini & Roso, 2012).

Prevention, promotion, and treatment actions must know and transcend the legal basis in order to focus on the subject by stating that "regulatory transgressions may not be a sign of mental disorder, but a governmental disorder" (Aggarwal et al., 2012, p. 12). Thus, the actions of public authorities, based on the principles of human rights, conduct practices for creating health care strategies that embrace people who use drugs as citizens of rights and political subjects (Calassa, Penso, & Freitas, 2015; Passos & Souza, 2011; Tammi & Hurme, 2007). To do so, we must call attention to the socio-historical relationships that have built the criminalizing and pathologizing stereotypes for drug users, putting into discussion the multiplicity of possibilities of drug use and betting that one should "treat people not for what they have or what they appear to have, but for what they are as unique beings"

(Lancetti, 2006, p. 61). In contrast to the paradigm of abstinence, in which the notion of remission of symptoms and/or cure of the patient is tied, harm reduction "breaks with the idea of drug abuse, states that it may or may not be harmful" (Teixeira, Ramôa, Engstrom, & Ribeiro, 2017, p. 1.457).

One of the most essential points that characterize harm reduction is the fact that it is a method built by the users themselves, restoring "subversive care of themselves to the rules of coercive conduct" (Passos & Souza, 2011, p. 161), in which the subjects are co-responsible for the production of health policies. Thus, offers of care are expanded by considering the experience of each one as the main articulator of care, ensuring respect for individual singularities and freedoms, directing care in a dialogical manner, providing choices that start from the desires, values, and worldviews of the people served (Bastos & Alberti, 2018; Calassa et al. 2015; Passos & Souza, 2011; Passos & Lima, 2013; Romanini & Roso, 2012; Tammi & Hurme, 2007).

Therefore, harm reduction is a perspective that requires immersion in the reality of the subjects, looking for participative, contextualized, and cooperative paths. "Nothing about us without us," a slogan widely used in the field of HIV/AIDS that affirms an ethical direction in the commitment of policies, programs, and practices developed, radically, with the participation of affected people (Jalloh et al., 2017).

Creating the Fundamentals for Actions: Between Institutional Protocol and Life Advising

In practice, although health professionals are familiar with harm reduction strategies, they are often unable to detach themselves of protocolary and instrumental actions, which appear to be safe and problem-solving, as in an operation of "aseptic" practices. This is due to the expectation that abstinence will be proposed as the final result, the user's own resistance to another possibility, the unbearability to deal with the "risk of relapses," the lack of different theoretical contributions, besides the difficulty of building a clinical procedure that is based on the patient's freedom—often confused with libertinism (Bastos & Alberti, 2018; Calassa et al., 2015; Silveira et al., 2010). The strict identification and labeling, coming from the modern and Cartesian scientific discourse that homogenously names the suffering of subjects, "leads to alienation and promotes in the subject a tendency to repetition, as he may attach himself to secondary gains and not produce a cut in his chain for the emergence of a new signifier" (Romanini & Roso, 2012, p.357).

A clinic pervaded by the paradigm of remission of symptoms, focused on the strictly chemical process, ignores "all subjective implication and function of the drug in life and psychic economy" (Silveira, 2013, p. 670) of the subject, and it is an important sign for the individual in which psychoanalysis works (Le Poulichet, 2005; Silveira, 2013). Thus, the question of abusive use and possible dependence implies a broad discussion, which includes organic, psychological, social, political, economic, legal, and cultural aspects inherent to this phenomenon, as well as the physical, psychic, and social consequences of it—thus the drug consumption must

be characterized as complex and multifactorial. Psychoanalysis and psychology in general, together with harm reduction practices, have a common guideline: radical listening to the other, considered in all its complexities (Bastos & Alberti, 2018; Petuco, 2011). For this, it is necessary that practices are combined with the conception of the use of drugs that radically depart from the subject in their complexities, social or subjective, in the construction of more effective possibilities of care (Prata & Santos, 2009; Romanini & Roso, 2012).

By mapping of the discussions on harm reduction at the interface with psychology, we found a large number of articles that are based on the contributions of psychoanalytical interpretations (Araújo & Costa, 2012; Bastos & Alberti, 2018; Lima, 2008; Mendonça, 2011; Rinaldi, 2006; Prata & Santos, 2009; Romanini & Roso, 2012; Silveira, 2013). In these contributions, there is the problematization of the field of care in a proposition that is based on the "originality of the individual scenario through which the subjective singularity is manifested" as "a discourse governed by principles that encourage each one to produce his singularity, his exception," placing himself outside the equation: "illness-healing" (Romanini & Roso, 2012, p. 349).

On the same perspective, Olievenstein (1990) not only considers dependence as a passive physical-chemical phenomenon and as if the user were a victim of the drug, but regards the subject with his own history and choices. Based on the inseparability between the drug, the subject, and the context, opens itself to the identification of the consequences and motives of drug abuse "so that other references and subsidies can be offered that generate behavior changes concerning the drug issue" (Prata & Santos, 2009, p.208). For this purpose, a clinic is proposed in which the significant drug is detoxified or instead a substance detox (Olivieri, 1998).

It is necessary to emphasize that the consumption of drugs does not necessarily constitute an addiction, since it must be considered in the relationship established with the substance and from the interrelationship among several variables. "What marks dependency, then, is the attempt to establish a dual relationship with the drug, eliminating any third party from it" (Romanini & Roso, 2012, p.353), that is, a relationship with the world and its experiences intermediated largely by consumption.

Mendonça (2011), referring to Freud's experiences throughout *Über Coca*, mentions that the therapeutic uses of drugs have different functions for subjects. Thus, it is necessary to remark that the subject uses the drug as one of the ways to deal with "the malaise, the excess proper to contemporary culture, realizing that it is necessary to listen to what the drug addict has to say without stigmatizing him" (Araújo & Costa, 2012, p. 1).

It is not helpful to the therapeutic process to consider the drug as a great evil, in a construction of practices that rival, dispute, deprive, and/or seek the user's salvation. Therefore, it is indicated as an attitude that does not require abstinence, building new possibilities in the relationship between subject and drug, with the inclusion of new repertoires of life (Mendonça, 2011; Olievenstein, 1990; Silveira, 2013).

Drug use does not always become the primary reason for people's existence. However, in some cases, it can be a primary value to the regulation of existence (Birman, 2001). Thus, although it produces pleasure and reduces malaise, it can be

dangerous, leading to detachment from reality and isolation. The direction of care is guided by the location of the place and function that the drug occupies for each subject, identifying the unique frustrations and sufferings so that new ways can be built to face the malaise (Mendonça, 2011; Silveira, 2013).

Thus, the ideal conduction of the treatment would be the displacement of the fixity of the relationship with the drug to a place where the consummation of its desire is not fixed in a single degrading object. In other words, the other way to deal with the body is not to necessarily "replace" this initial relationship, but for the subject to establish other forms of relationships and to constitute himself as a desiring subject, being able to do other things with his body (Romanini & Roso, 2012).

Final Considerations

By analyzing the state of the art of scientific publications in the field of psychology from the perspective of harm reduction, it is possible to notice an important accumulation of subsidies for practices that start from the conception of socio-historical, complex, multidimensionally constituted subjects for whom drug use gains relational and psychosocial relief. The understanding of the effects of prohibitionism, in the superposition of criminal policies to health policies, alerts to the clinical-political challenge of observing moralistic, biologicist, and medical-pathological captures, which calls for the overcoming of the conviction of the abstinence of people with problems related to drug consumption, in the sense of building significant practices, of the established relationships, in a movement of restitution of human protagonism in the conduct of their lives and their community insertion. The studies point to a clinical-political direction in which freedom is the starting and arrival point of therapeutic processes that effectively transform conditions that generate suffering, imbricated in contexts that stimulate individualism, capitalist consumption, criminalization of poverty, and ethnic-racial inequality.

In this way, the harm reduction suggests the encounter with the other, making his demands legitimate, comprehending the enlargement of life as the primary objective of emancipatory care. It is important to point out that studies in the field of psychology in consonance with this ethic of care have understood the users as privileged voices for the construction of an engaged science, committed to transforming realities, and which does not hinder users' participation in this construction, forging places of greater legitimacy in the evaluation and consolidation of current practices.[1]

[1] To learn about community harm reduction practices, we suggest the e-book: *Crack: Harm Reduction - Brazilian Lessons on Health, Security, and Citizenship* (2017), available at: https://www.opensocietyfoundations.org/publications/crack-reduzir-danos/pt; *Drugs and Human Rights: Protagonism, Peer Education and Harm Reduction* (2018), available at: https://www.unifesp.br/campus/san7/images/E-book-Drogas-Direitos-Humanos.pdf; and *Harm Reduction: Extending Life and Realizing Rights* (2019), available at: https://www.unifesp.br/campus/san7/images/E-book-Reducao-Danos-versao-final.pdf.l

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Chapter 25
Prevention and Harm Reduction in Schools: Contributions from Psychology

Carla Dalbosco and Maria Fátima Olivier Sudbrack

Introduction

The use of alcohol and other drugs among adolescents has become a major public health problem worldwide in recent decades, challenging public policy managers, researchers, educators, and clinicians in building collective responses to the understanding of the various facets of the phenomenon and possible associated harm. However, recognizing that there is access to licit and illicit drugs among adolescents of school age always involves controversy, whether in relation to preventive actions that seek to avoid the first use or, at the opposite extreme, when proposing interventions focused on adolescents who already make abusive use of certain psychoactive substances (PAS) or present with resulting disorders (Almeida et al., 2017).

The approach to the subject is not linear and part of some questions: Who is able to do prevention? Is it possible to integrate the perspective of harm and risk reduction when it comes to adolescents? Is there any field that has the prerogative of leading actions in the school context? Psychologists, health professionals, social assistance, community leaders, educators – who is mainly responsible? Or do all these actors have their share of contribution?

It is observed that the most effective social responses to these questions are those based on intersectoral and multidisciplinary actions, which take into account the specific needs of the adolescent phase: age, pattern of use, and etiological factors (whether genetic, environmental, cultural, or psychological). Evidence indicates that, in the field of additions, a single factor alone does not explain why certain people are more protected, while others are at a greater risk of developing substance

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A. L. M. Andrade et al. (eds.), *Psychology of Substance Abuse*,
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use disorders (White, Klein, & Martin, 2015). In this sense, drug use is a multidimensional phenomenon that generates health impacts beyond biological aspects, also including psychological and social dimensions. There is also a cultural component related to the consumer society in which the subject is inserted, with its political, legislative, economic, and community organization (Souza, Souza, Daher, & Calais, 2015; Silva et al., 2018; Subrack, 2019).

It is at the intersection of these points that the "thinking of psychology" can contribute with its theoretical and technical-methodological framework. In recent decades, psychology as a discipline and epistemological field has been engaged in the study of adolescent vulnerabilities, among them the use of substances. Above all, the clinical area, from its *gaze on the other,* has been expanded, causing psychology to break through the "academic walls" of laboratories and offices and occupy an active space in society. Thus, this new scientific achievement contributes to the sociocommunity development and to a better systemic understanding of social demands and risk and protection factors present in the contexts of subjects' insertion, such as the school.

Historically, addressing the issue of drugs in Brazilian schools was considered a taboo subject and a lack of specific projects was identified for this context (Souza et al., 2015). Most of the existing actions were anchored in the model of fear, and there was a belief that only specialists in the area could propose preventive strategies for the school community. However, as public policies advanced and were consolidated in the country, new visions on the consumption and users of alcohol and other drugs were introduced, contributing to the proposition of preventive, protective, and intervening actions that include educators and adolescents (Casela, Monteiro, Freitas, & Silveira, 2014; Dalbosco & Pereira, 2013; Yamauchi et al., 2019).

This chapter aims to present some contributions from psychology to preventive and harm reduction actions at school, since this context is distinguished as an environment sensitive to PAS consumption, but where a low degree of understanding and preparation to deal with the issue is still identified. To this end, in addition to some conceptual aspects, the paradigm of the *Networked School* will be highlighted, consolidated from the experiences led by the Program of Studies and Attention to Chemical Dependencies (PRODEQUI) of the Institute of Psychology of the University of Brasília (UnB). Since the 1990s, PRODEQUI/PCL/IP/UnB has been contributing with public policies and developing actions together with schools, aiming at strengthening local networks, the qualification of educators, and greater youth participation. It is hoped to contribute with the articulation of community networks and protection so that this institution is better prepared to receive problems arising from drug consumption in the country.

Risk Prevention and Harm Reduction Models

It is impossible to address this issue without briefly examining the divergent historical models that have influenced current public policies regarding the consumption of PAS: on the one hand, the so-called *war on drugs* model and, on the other hand, the *risk and harm reduction*. According to Albertani (2013), the *war on drugs* advocates the eradication of substances and the adoption of zero consumption. It adopts the reduction of demand and the search for a healthier life as a premise, but ends up proving to be unreal, unfair, and prejudiced. Likewise, this model flirts with repressive strategies and prioritizes public security actions, combined with information that focuses, essentially, on fear and the harmful effects of PAS use.

A systematic review conducted by Stockings et al. (2016) evaluated, among other aspects, the effectiveness of prevention and harm reduction actions in the young population. Among the findings, it is noteworthy that most research seeking scientific evidence for interventions with this audience focus only on reducing the supply of legal drugs, especially alcohol and tobacco. In relation to these substances, the measures that are most effective to inhibit consumption involve taxation, prohibition of public consumption, advertising restrictions, and minimum legal age. However, the study warns that many of these methodologies affect prevention at school, since there is a unique focus on abstinence and the transmission of prohibitionist information, with emphasis on an educational model of passive learning. The evidence indicates that this approach is not effective, but the model is still in force in most countries and is still prioritized in the actions implemented in the school environment.

Alternatively, the *harm and risk reduction* proposal is based on a preventive model that focuses on the quality of life of the subjects and not on drug use. This is how the approach tries to reduce the risks of, for example, adolescents engaging in the use of some substance, even if occasional. Likewise, it adopts as a strategy to improve vulnerability indicators and strengthen the physical and social well-being of those who may already be users and present problems resulting from the use. In this case, the information focuses on the advantage of a substance-free lifestyle or more rational use when possible (Moreira, Silveira, & Andreoli, 2006).

This broad concept of risk and harm reduction is important because it considers as success not only the total abstinence from consumption, but also the possible steps in relation to reducing its losses. However, when it comes to school-age adolescents, the issue becomes more controversial, especially when it is thought that they should not have access to even licit substances such as alcohol and tobacco. The debate needs to address in a systemic manner the paradoxes involved, and there is a need, as a matter of priority, to ensure that the Brazilian legislation in force, through the *Statute of the Child and Adolescent*, fulfills the protective role in relation to adolescents. However, there is no denying that a portion of the youth already has access to licit and illicit drugs and prevention needs to be approached in a realistic manner.

The importance of investing in projects/programs that focus on risk and harm prevention is justified when analyzing Brazilian epidemiological data, well documented in the historical series of surveys on drug use among students conducted by the Brazilian Center for Information on Psychotropic Drugs (CEBRID) between 1987 and 2010. Although the data are outdated, considering that the last one was produced in 2010, the results are still relevant for the country, since they are official data that contribute to the establishment of public policies. In the last one (Carlini et al., 2010), which heard adolescents from 11 to 19 years old, the data reveal that:

- 60.5% of students have tried alcohol and 16.9% tobacco.
- 8.7% refer use in life of solvents/inhalants, 5.7% marijuana, and 5.3% anxiolytics (without prescription).
- 2.5% have used cocaine at least once in their lives, 2.2% amphetamines, 1.3% ecstasy, 1.0% LSD, and 0.6% crack.

A little more recent information from the National School Health Survey, 2015 (IBGE, 2016), shows that:

- 55.5% of ninth-grade students (about 1.5 million) have consumed alcohol.
- Lifetime use of illicit drugs rose from 7.3% (230,200) in 2012 to 9.0% (236,800) in 2015.
- 23.8% used alcohol and 4.2% used some illicit drug in the 30 days prior to the survey.

These results offer a portrait of Brazilian youth and are indispensable for the design of public policies. Additional data on consumption among other groups in high-vulnerability situations are even more alarming, such as adolescents in conflict with the law. A Brazilian study showed that transgressor adolescents are more likely to use illicit drugs than those who do not commit infractions: 89% reported using marijuana and 21% crack (Schneider, Mello, Limberger, & Andretta, 2017).

Without denying that all drug use involves health risks, it is important to highlight that the emergence of the risk prevention and harm reduction model has, in recent decades, made it possible to inaugurate a more pragmatic debate on this complex social issue and associated vulnerabilities. Therefore, it is important that prevention seeks to modify institutional practices, improve the school environment, encourage social development, establish partnerships with different health services, and involve families in curriculum activities (Moreira et al., 2006). It also aggregates the health education approach, the integration of the drug issue as a transversal topic in different disciplines, the investment in the training of educators, and the incentive/appreciation of youth participation activities.

The study developed by Stockings et al. (2016) highlights the importance of preventive programs that include pedagogical and reflective strategies. Interventions that incorporate social skills training, for example, are more likely to be effective. However, the authors warn that most research is concentrated in high-income countries, with uncertain applicability in other contexts, cultures, or subpopulations. In Brazil, despite the consolidation of preventive actions at school in recent decades, most initiatives do not include the encouragement of a critical and autonomous

attitude on the part of those involved, whether the educators themselves or adolescents in their different ways of life.

Along the same lines, it is observed that paradigm changes are simpler in theory than in practice. Barros and Colaço (2015) analyzed the production of senses about drugs among adolescents participating in a health discussion group in a public school. The study pointed out that in the processes of meaning, different *social voices* emerge, with emphasis on positions related to the model of war on drugs and prohibitionist strategies, despite the existence of the perspective of harm reduction. They conclude that there is a historical/ideological character in the subjective construction, which leads adolescents themselves to adopt the discourse of prevention through the bias of normalization of juvenile behavior. However, these same young people show a certain disbelief regarding the effectiveness of the model, which shows that there is ambivalence in relation to existing health actions (Barros & Colaço, 2015).

The school is a fertile space for health prevention and promotion activities, but it cannot be seen as isolated from the larger whole of society. A systemic vision makes it possible to situate the intrinsic complexity of the phenomena and understand that only by mirroring differences will it be possible to break with the *status quo.* The process is dialectical:

> If on the one hand culture is trans-generational, on the other hand, every generation adds something of its own to the culture. Youth is deeply necessary for all cultural changes and nothing changes if youth is sacrificed (Alberti, 2010, p. 67).

In the same way, it is necessary to build bridges that allow a true meeting of knowledge between the components of the school and the community: the strengthening of support networks.

Adolescence and Drugs

When designing preventive actions, the first point to consider is that not all adolescents will use, abuse, or even develop some disorder due to PAS use. Obviously, there is a legitimate concern that early drug use may rapidly evolve into more harmful patterns of use, in addition to the use of multiple substances. However, a large proportion of these young people will significantly decrease consumption in early adulthood and conform to social norms and "maturity obligations" (e.g., work, marriage, children). Another point is that drug use in adolescence is associated with peculiarities of the stage of development itself: acceptance by the peer group, feeling of omnipotence ("with me this does not happen"), increased impulsiveness, search for new sensations, among others (Pechansky, Von Diemen, De Micheli, & Amaral, 2017). Thus, to identify individual needs that demand specific levels of intervention, the different patterns of consumption must be understood from the triple relationship "man-drug-world" (Sodelli, 2015).

Reichert, Silva, Andrade, and De Micheli (2019) point out that, when addressing the issue of PAS consumption, one of the main concepts to be included is that of vulnerability. This, besides encompassing biological and individual dimensions, also presupposes the understanding of macrosocial conjunctures (economic, social, and cultural factors) and the context of the subjects' insertion. In adolescence, the repertoire of psycho-behavioral skills and socio-emotional competences are not yet developed at all, which may leave them more vulnerable. A recent study (Burgess Dowdell & Noel, 2020) that investigated risk behaviors among adolescents identified that young people who report knowing someone at risk of self-injury are more likely to smoke and use alcohol and illicit drugs. Drug use also appears associated with self-mutilation and self-medication and as a way to deal with emotional pain. The study also pointed out that risky behavior can occur in groups and be a link to the bond of friendship with similar adolescents.

The use of drugs is referred to as "democratic," because it is present in different scenarios of daily life (home, street, family, school) and, in this sense, reaches the reality of all individuals, regardless of socioeconomic class. However, there are contexts in which the greater exposure to vulnerabilities and risk situations contributes to the aggravation of the picture, demanding more complex actions. For example, the risk of drug abuse is 73% higher in individuals with a history of sexual abuse in childhood (Halpern et al., 2018). In view of this, it is important to identify adolescents with greater chances of developing problems related to the use of alcohol and other drugs, in order to promote actions that reduce the environmental, family, and individual risk factors experienced (Pechansky et al., 2017).

Specifically in the populations of young people and adolescents in Brazil, it is observed that there is a great challenge to transform the existing conditions that generate vulnerability. A more precise cut shows that there are different degrees of vulnerability, in that, for example, the economically less-favored portion may be more exposed to drug trafficking and its violent logic (Sudbrack & Dalbosco, 2019). This perception is in accordance with studies that show that chronic exposure to social adversity, stress situations, and problems resulting from the use of PAS can have an impact on different populations, affecting mainly those of low socioeconomic level and racial minorities (Mulia & Zemore, 2012).

Thus, it is necessary to consider that concepts such as "youth" and "adolescence" are clippings that are not restricted only to a certain age group, but are crossed and marked by inequalities and differences according to each context. Along this same line, we recall that the process of identity construction is interactive, intersubjective, and anchored within a collective culture. Thus, being a relationship experience, identity is always historical and social. The need to belong is fundamental: "Who is something is always for others, and participates with them in some gregarious experience" (Soares, Bill, & Athayde, 2005). For this reason, it becomes necessary to look for a language that makes sense to the group that wants to reach, in this case, adolescents, both for preventive actions and for the reduction of risks and damages. However, despite the evidence of the importance of valuing differences and the protagonism of the young people themselves, the current programs in which there is youth participation in public politics are still timid (Souza et al., 2015). In this

sense, the theoretical framework of psychology can contribute to the development of sensitive listening and the identification of situations of risks and vulnerabilities present in the plurality of the school context.

Educators and the School

In the complexity of the school context, we consider as educators the group of professionals that integrate the institution: teachers, school principal, pedagogical team, reception and sanitation staff, among others. To think about a healthy school is to dialogue with all the actors who are part of its social insertion context, valuing the available resources and the possible partnerships with the various points of the social and community network. The bet is, above all, on a collective work and not the work of just one educator alone, since all are capable of carrying out preventive actions in some area (Dalbosco & Pereira, 2013; Sudbrack & Gussi, 2013).

In practice, it can be observed that many segments and institutions still feel unprepared for preventive actions, believing that they will only be viable with the intervention of a specialist in the subject (a psychologist, for example). A study conducted with pedagogical coordinators of Brazilian public schools points out that, despite having incorporated the preventive discourse, they report ignorance and difficulty in accessing qualified information about drugs. This makes them feel powerless and paralyzed to deal with the subject or adopt repressive postures. These professionals also report a feeling of fear for relating drug users to marginality (Moreira et al., 2006).

For Santos, Sudbrack, and Almeida (2010), some factors present in the school environment may increase the risk of problem situations:

- Lack of clear standards, rules, and limits.
- Disrespectful relationships.
- Lack of responsibility of educational agents (teachers, principals, servants).
- Absence of relationship between family and school.
- Absence of positive expectations regarding student performance.
- Lack of activities that encourage youth participation.
- Unaffective and prejudiced relationships with students.

Research on drug-related problem situations, conducted with educators from all over Brazil (Dalbosco, 2019), revealed that in most schools there are reports of drugs:

- *Unprotected school*: circumstances involving drug trafficking, both on the outskirts and within the school institution itself; threatening situations of drug traffickers; lack of internal support and service network.
- *Lawful and illicit drugs*: problems related to the use or abuse of alcohol and other drugs in the school environment, affecting relationships and performance.

- *Vulnerabilities*: presence of adolescents in a situation of social vulnerability, exposed to violence situations and risks due to their consumption pattern or other family members.

The challenge is how to overcome fear and paralysis to promote a school environment that is prepared to respond adequately to these and other risk factors present in the school. The role of educators lies in protecting the young person, articulating elements of *protection-prevention-action-dialogue* in the context of their specific reality. Only in this way can the school become more vulnerable, more protective, and protected (Sudbrack & Dalbosco, 2005).

According to Moreira et al. (2006), it is essential that the training actions are based on the experiential and practical experience of educators, helping them to deal with the identified risk situations. In the same way, training can contribute to make them feel safer to carry out harm and risk reduction interventions.

The approaches that are most sustainable in the medium and long term are those involving different actors. Thus, it is desirable that the school be courageous in taking on the role that concerns it, while also acting in conjunction with reference services when necessary. Thus, it will be able not only to identify vulnerabilities, but also to feel stronger and invest in the potential of each adolescent.

Capacity Building from a Networked School Perspective

In the search for answers to the different challenges faced by the school as a citizen-training context, clinical community psychology helps us to remember that it is impossible to exclude man's relationship with his environment and his culture by looking at him in isolation. The school is made up of all the people who integrate it, and, in this sense, it is a living environment full of possibilities. As Morin (1991) says, the process of coming to be of the subjects, with its symbolisms, myths, contradictions, gaps, and peculiarities is also part of the constitution of any institution.

Among the different possibilities of intervention aimed at risk prevention and damage reduction in the school environment, the *Networking School* methodology stands out for its integrating role. This proposal is pedagogically based on the *Drug Use Prevention Course for Public School Educators* (Brasil, 2014), executed by PRODEQUI/PCL/IP/UnB, in an institutional partnership between the National Secretariat for Drug Policy (SENAD), of the Ministry of Justice, and the Secretariat of Basic Education (SEB), of the Ministry of Education. For more than a decade (2004–2014), this distance learning course has been offered as a priority action, consisting of the main intersectoral policy implemented by the Federal Government to tackle the drugs issue at school.

Among the main references that underpin the methodological proposal of the Networking School are the systemic perspective of drug addiction (Colle, 1995), complex thinking (Morin, 1996), community psychology (Fuks, 2015), the practice of social networks (Dabas & Najmanovich, 1995; Sluzki, 1997), and French

psychosociology (Bordet & Guiton, 2014). Thus, the proposal intends to consolidate a new paradigm of prevention to address the theme of PAS use at school, anchored in the systemic perspective, health promotion, and network practice. As a result, it will be possible to deconstruct and overcome the model of fear and frightening, based on the paradigm of the war on drugs.

Through the *Drug Use Prevention Course for Public School Educators*, the construction of a participatory process that gave voice to different actors in the school was prioritized, with emphasis on the potential protagonist role played by educators and the strategy to sensitize and train them for preventive actions (Subrack, 2019). As a result, this training certified 94,072 educators and resulted in 19,354 prevention projects, built collectively by educator-participants, to be implemented in public schools throughout the country, according to local reality and needs (Sudbrack & Dalbosco, 2019).

In the process of developing the course content, themes are addressed with tools that subsidize the construction and implementation of an intervention project by the group of students/educators of each school. These projects, supervised by a tutoring team, can be structured in reference to 5 main methodological axes:

- Youth participation and the training of multipliers.
- Integration of preventive actions in the political-pedagogical project.
- Rescue authority in the family and at school.
- Strengthening the school in the community and as a community.
- Reception of teenagers at risk.

The main focus is to contribute to the strengthening of the school community, as prevention should be an integral part of the curriculum as a cross-cutting theme, contemplating the development of responsible citizenship and involving the social network of which the school is an integral part (Sudbrack & Gussi, 2013).

The strategy was reinforced when it became part of one of the axes laid down in the Health at School Programme (PSE),[1] which states that the health actions envisaged under the program should consider attention, promotion, prevention, and assistance. These actions should be developed in an articulated manner among the basic public education network and in accordance with the principles and guidelines of the Health Unic System (SUS), and should include actions to prevent and reduce alcohol consumption and to prevent drug use. The experience allowed the construction of knowledge in the context of formation-intervention, retrofitting preventive practices, since it includes in one of its axes the permanent education of professionals who work in school.

The National Policy on Drugs that was in force in the country between 2005 and 2019 recommended that prevention actions should be the responsibility of all segments of society and should focus on building social networks to improve living conditions and promote general health (Brasil, 2005). Based on this guideline, the educational context has always been highlighted for its potential in the development

[1] Presidential Decree No. 6286 of December 5, 2007.

of preventive actions in an articulated manner with other areas (health, human rights, social development, justice, culture) and segments of the community, recognizing its strategic character.

Evaluation research carried out in the fifth edition of the course revealed the potential of this type of training as a strategy for changing the paradigm and developing preventive actions in the educational territory. On the other hand, the great challenge remains to guarantee the implementation in the school of the prevention project developed during the training (Justino, Lima, & Sudbrack, 2015). Regardless of the concrete difficulties that exist in the territory, we believe that it is extremely important to continue investing in the continued training of educators and the expansion of actions focused on open educational territory. This strategy will facilitate access to qualified knowledge that will contribute to changes in social representations and attitudes adopted, moving toward a new paradigm for prevention. The territorialization of actions will allow greater mobilization of local institutions to support the implementation of the project.

Finally, one cannot forget the importance of valuing and giving a voice to the subjects who are the target audience of preventive actions. Research intervention focused on harm reduction conducted by Souza et al. (2015) pointed out that when the personal experience of young people is valued and there is room for them to actively position themselves before their reality, adolescents become producers and protagonists and take ownership of their own history. This allows them to adopt a critical posture and act as multiplying agents in school and community.

Final Considerations

From the general panorama that has been briefly explained in this text, it is evident that any preventive action to be carried out in the school will only be successful if it is drawn in two lines: (1) the investment in the potential of youth protagonism and (2) the formation of educators in the front line of the school territory.

The *Health Education* model, the *Harm Reduction* paradigm, and the *Networking School* methodology have converged toward a real appreciation of intersectoral work that addresses complex and challenging issues. For this reason, these approaches need to be strengthened.

Our constitution as subjects goes through a complex, dialectic, and permanent process in the scenario of our human relations. It is from the others' look that we are built, and, as social beings, this look ensures identity, but in the other hand can also trap us in a distorted view of who we are. In this sense, perhaps the main contribution of psychology is to bet on an integral approach about who the drug user subject is, beyond his pathologization.

We make use of the vision of Nery Filho (2012), who proposes a break with the reductionist discourse of the human relationship with drugs, by emphasizing that *humans use drugs because they have become human*. In his words:

> It is not the drugs that make the humans (...), but it is the humans that make the drugs, or, if we put it another way, according to the holes/faults that constitute the structure of our stories. Some of our children will have small spaces for drugs in their lives; other of our children will find it easier to bear the horror of exclusion at birth in drugs. Between one story and another, there are all possibilities – life is *mobile* (Nery Filho, 2012, p. 20).

As psychology professionals we have an ethical commitment not to reinforce discriminatory and prejudiced behavior toward anyone. In the case of the context worked here, we must encourage young people in the construction of an emancipatory identity and articulated with their support networks.

Thus, we hope to move toward an integral, balanced, and humanistic strategy, which consolidates a plural vision of the issue of drugs and their interfaces, always respecting the fundamental rights of the human person, especially those who live in more vulnerable conditions.

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Chapter 26
Preventing Alcohol and Other Drug Abuse in Companies

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Introduction

Several studies have been conducted with the objective of discussing the relationship between work and health/mental illness (Dejours, 1986, 1991, 1992, 1994/2004, 1996; Dejours, Abdoucheli, & Jayet, 1994; Mendes, 1999, 2008; Pettengill, 2010; Seligmann-Silva, 1994; Souza & Guimarães, 1999; Souza, Paiva, & Reimão, 2008), since it can be a source of satisfaction and development and can also represent a risk to the health of the psychism. According to Felix Junior, Schlindwein, and Calheiros (2016), the involvement of the worker with psychoactive substances is a phenomenon that has occurred frequently in recent decades, characterized by fear, resistance, and stigmatization, a situation that makes access to treatment difficult and even impossible. These authors also suggest that specialized promotion, prevention, and intervention work be carried out in companies in order to attend the specificities of this population, decreasing the high prevalence and incidence rates of mental problems currently found.

In a study that sought to estimate the pattern of use of alcohol and other drugs among truck drivers in the state of São Paulo, Leopoldo, Leyton, and Oliveira (2015) noted that in the 30 days preceding the interview, of the 684 drivers participating in the survey, 67.3% used alcoholic beverages, 34.6% heavily, 26% as *binge*

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drinking, and 9.2% were at risk of developing dependence. The authors of this study also reported that 54.6% of the drivers stated that they had associated use of alcohol and other drugs, having used alcohol predominantly with tobacco and energy drinks, knowing that the use of drugs in the context of traffic is a serious problem and that it can worsen under the condition of joint use of alcohol and other drugs. Silva, Andrade, Guimarães, Souza, and Messias (2019) identified an important divergence between truckers' points of view regarding the use of substances, and some of them consider it normal and even necessary for the exercise of their profession. In this sense, the ingestion of amphetamines would be a kind of "safety measure" to not sleep at the wheel, in face of the many and exhaustive trips.

Seeking to discuss the use of psychoactive chemicals among health professionals who work as nurses, Andrade, Pinto, and Barreto (2019) found that the use of drugs by these professionals may be related to stress and/or working conditions, pointing to the need for a mental health prevention program aimed at this group of workers. According to Dejours (2004), the problem of alcohol and drug use among workers may reflect their psychological dissatisfaction and suffering with their work realities that may promote or intensify the use of such substances. Suffering related to work demands is a phenomenon that can be experienced by any worker due to the necessary adaptation between personal characteristics (personality structure, personal history, psychodynamic characteristics) and work demands. However, the worker must be given the opportunity by the work organization to reframe this suffering by recognizing and valuing his contributions, and other aspects that will be presented throughout this chapter.

Both the worker using the substances and the company suffer important losses as a result of this situation, which justifies the importance of studies that discuss this issue. In the cases of substance dependence, the workers have to get away from work, bringing losses to the company, damaging its dynamics, due to the rotation that demands new investments in personnel training, readaptations, and overload for employees from other sectors who, besides fulfilling their function, must try to supply the demands of the sector that was temporarily without employees, thus causing wear to the work organization as a whole. In addition to this, presentism can occur, which can also bring harmful consequences for the company and the workers because the worker, without health conditions to work, insists on doing so for fear of losing his job or even for psychically denying his condition of suffering.

This chapter intends to discuss, based on the theoretical-methodological approach of labor psychodynamics, the aspects that represent risk to the health of workers from different realities, encouraging them to abuse alcohol and other drugs, as well as the factors that in the labor–worker relationship act as protection to the health of the psyche, thus contributing to the prevention of the use and abuse of licit or illicit psychoactive substances.

Risk Factors and Mental Health Protection for Workers and the Possibility of Work to Prevent the Use of Psychoactive Substances in Companies

The work is an important pillar of support for the health of the psychism, according to scholars of labor psychodynamics (Dejours, 1986, 1991; Dejours et al., 1994; Mendes, 2008). According to Freud (1930/1997), through work, the human being has the chance to sublimate instinctual psychic needs and thus preserve his mental health. According to this author, the work also enables the elaboration of three important sources of human suffering: (i) suffering related to human frailty itself, while a being ages and dies; (ii) suffering related to the lack of control over nature; and (iii) suffering motivated by the need to constantly adapt to the demands of a social and cultural life.

Scholars of work psychology (Dejours, 1992; Guareschi, 1988; Guareschi & Grisci, 1993; Guimarães & Grubits, 1999; Mendes, 1999) refer to the importance of the worker being able to count on a working environment that allows him to experience the feeling of control over something through the freedom to perform his work, that is, the freedom to develop his own work methodology in the function he performs. However, this situation is complicated when there is, in the life of this worker, the negative interference of the use of alcohol and/or other drugs.

Regarding this possibility of freedom to work, Dejours (2004) considers that individuals with low schooling tend to enjoy little freedom to the detriment of workers with higher education. For this reason, it is very important to provide business incentives for employees to pursue technical-scientific growth and development, expanding their possibilities of holding positions where the degrees of autonomy, freedom, and control are adequate for mental health. At this point, it is possible to discuss risk factors and protection against the use of alcohol and drugs in work institutions.

The impossibility of sublimation consists one of the risk factors for substance use among workers of impulses through work that is not freely chosen and little autonomy and control to work. It is important to consider that the ability to choose a profession/employment acts as a factor to protect the mental health of the future worker; of fundamental importance is the participation of the family of the child and adolescent in this process of self-perception of the young person regarding their own abilities and aptitudes, as well as the psychologist who works in the companies, who can refer young adult employees who still show insecurity regarding their professional choice, to psychology services that can help them through vocational guidance.

However, according to Mendes (2008), even if the subject has been able to make his choice and work with something that arouses his interest, if he does not get recognition and appreciation from the work institution for his contributions at work, these absences may configure as risk factors for the use of substances, among others, by the worker. The recognition allows the worker to reframe his suffering related to the difficulties and challenges he faces when performing his work,

functioning as an important factor of protection and prevention of mental illness, such as the abusive use of alcohol and other drugs.

In a survey conducted with 10 urban bus drivers in the city of Campo Grande (MS, Brazil), Pettengill (2010) noted that 75% of professionals pointed out as an essential factor to have quality of life at work, the recognition and appreciation for the craft they develop, translated into praise for the service provided by the people who make up the collective work (superiors, colleagues of the same hierarchy, client-passengers), as well as to perceive on the part of society, in general, respectability for their work, because, according to the interviewees, this recognition interferes positively in their self-esteem, confirming the studies of Davies and Shackleton (1977), Guareschi and Grisci (1993), Dejours (2004), and Mendes (2008).

Dejours (2004, p. 28) states that working implies the "engagement of the personality to respond to a task delimited by pressure," the worker being among the real demands of work and the prescriptions of those responsible for the organization of work. This path between what is prescribed and what is real must be created or discovered by the worker at every moment, who nevertheless needs the support of the labor organization to mobilize strategies to meet this challenge, so that the encounter between his subjectivity and the demands that work imposes on him is possible, a phenomenon defined by Dejours (1996) as a symbolic resonance.

In a telephone survey with several private and public companies in Campo Grande, MS, in the year 2019, it was found that most of them used only lectures in internal weeks of prevention of work accidents or even random lectures during the year, with the exception of the Water and Sewage Company of the State, which had a program of prevention of the use of alcohol and drugs in Campo Grande, extending to several other cities in Mato Grosso do Sul. Dejours (1986, 1992, 1994) considers control over one's own work the freedom to modify one's work methodology when one finds it necessary, of fundamental importance for the preservation of one's mental health, protecting one from disorders such as psychic alienation that makes one vulnerable to the abusive use of alcohol. The feeling of having little control over work processes is a risk factor to the worker's physical and mental health and may even lead to the use of substances because it is in opposition to the unconscious human need to obtain the feeling of control over something, according to Freud.

For Dejours (1992) alienation is the psychological state in which the worker becomes disconnected from himself, due to the rupture between his characteristics (personal history) and psychic needs (such as the need for freedom to create) and the task he performs in his work, generating a lack of meaning in the relationship with his work. The feeling of loss of meaning when developing his work exposes the worker to psychic wear and tear and to the development of mental health problems such as burnout syndrome. Burnout syndrome is the result of chronic stress related to the demands that the subject needs to face when performing his/her work, such as unhealthy work conditions to the health of the psychism and work relations that generate embarrassment, impotence, and emotional wear and tear. Maslach and Leiter (1999) state that the burnout syndrome is made up of three fundamental aspects: emotional exhaustion, low realization, and depersonalization. Emotional exhaustion is characterized by a feeling of extreme tiredness, experienced by the

subject as mental wear and tear that leads to the loss of affective involvement with his work, and then the worker is susceptible to react with irritability and intolerance to frustrating or difficult situations at work. The emotionally exhausted worker feels that he no longer has the psychological resources to deal with any kind of situation that will generate any emotional discomfort and need for adjustment, often resorting to self-medication as a way of appeasing his discomfort.

Low achievement refers to the worker's feeling that his income at work is no longer the same, that he is no longer as good at his job as he was before he fell ill. Finally, depersonalization manifests itself in the worker's indifferent behavior in relation to the needs and suffering of others (colleagues, clients, patients, students, among others, in the case of professionals who work directly with people). Burnout may constitute a risk factor for the abusive use of alcohol and other drugs because the subject tends to seek relief for these symptoms using these substances.

Trying to verify the presence of burnout syndrome among nursing professionals in intensive care units of a university hospital in the interior of São Paulo and the existence of an association between alcohol and tobacco consumption, Fernandes, Nitsche, and Godoy (2015) observed the following results: in the 160 professionals participating in the study, 34 presented signs of burnout syndrome, most of them female, married, and young adults. Eighteen professionals declared themselves smokers, which may signal the high level of anxiety of these workers and insufficient or not very adaptive self-resources to deal with it, seeking relief through the use of tobacco; 6.4% of the nursing auxiliaries, 50% of the nursing technicians, and 71.4% of the nurses drank moderately, also signaling the psychic suffering to deal with the demands of the work; 5.4% of the nursing auxiliaries and 14.3% of the nurses presented a pattern of risk drinking and a nursing technician presented possible dependence on alcohol.

Brito (2018) conducted a study with nursing professionals in a hospital setting, with the objective of verifying the relationship between drug use and the prevalence of burnout syndrome. In the sample of 416 professionals, female workers (85.2%), age group greater than 50 years (39.7%), married marital status (69.5%), higher education level (63.8%), and length of service in nursing between 1 and 5 years (22.8%) predominated. Regarding drug use, 6.7% have moderate risk of alcohol use or dependence, 36.1% ingest alcohol in *binge drinking,* and 5.3% use tobacco moderately or are dependent. It was identified that 20.7% of the participants have a high level of emotional exhaustion, 17.8% have a high level of depersonalization, and 63.9% have a low level of professional achievement.

Among the participants in this study, 4.3% showed signs of burnout syndrome, *with a* positive correlation between the use of alcohol and depersonalization and between the use of sedatives and depersonalization. The phenomenon of depersonalization, while one of the pillars that constitute burnout, understood from Klein's psychoanalytic studies (1932/1997), reflects the difficulty of working subjects to undertake the psychic task of elaboration of depressive anxieties, such as the feeling of lack of control over work processes, the need to adjust to demands that exceed their psychic capacity of elaboration, thus becoming persecutory and offensive to the worker's ego. In this way, these anxieties tend to be denied by the subject, who

manifests attitudes of indifference to the psychic pain of the other and to his own and an affective detachment from his tasks in the work he performs.

These studies demonstrate the presence of work-related psychic suffering, in which workers seem to make use, according to Dejours (1992), of defensive psychic strategies that do not favor the experience of sufficient satisfaction with work in order to protect their mental health. According to this author, the level of suffering of these workers indicates their perceived absence from a space where they can express their anxieties and concerns about the demands of their work. Without this space for listening and negotiation, professionals have no chance to develop creative strategies to deal with the challenges their work imposes on them, and there is no other way out than to get sick, due to the attempt to adjust to the unhealthy work reality. The use of defensive strategies aimed at the worker's adaptability or adjustment to an unhealthy work reality is a risk factor for mental health. On the other hand, the possibility of developing creative strategies to deal with the challenges that their work naturally imposes on them is a factor that protects the worker's use of substances.

Souza, Lima, and Santos (2008) analyzed the consequences of alcohol abuse by women and discussed the health care that is needed and available, identified factors that motivated the participants of the research to abuse alcohol, such as forgetting or alleviating the consequences of financial difficulties, differences in marital relationships, physical violence, and exhaustive work hours. Exhaustive work hours are risk factors for mental health and should be rethought by entrepreneurs, even if it is a "choice" of the worker himself, due to exceeding human limits and damaging the balance that, according to Souza and Carvalho (2011), there should be, among the various instances of life. This means that if the worker's body is what is overloaded in the exercise of his work (as in manual labor), the health problems resulting from this overload will interfere with his psychological, social, environmental, and spiritual well-being and vice versa. If the work overloads his cognitive functions, such as attention, perception, and memory, or demands a constant ability to control his emotions, this psychological overload of the teacher's work, for example, or of a shop assistant, will interfere with his physical health and his capacity for relationships, that is, exhaustive workdays affect the balance that must exist between these various domains of human life, constituting an important risk factor for the use of alcohol and drugs at work.

Domingos, Jora, Santos, and Pilon (2014) sought to identify the alcohol use and health conditions of 1087 truck drivers participating in a health campaign. The results showed a set of risk factors associated with drivers who scored above 8 points in the Alcohol Use Disorders Identification Test (AUDIT), also showing blood pressure, glycemic, and cholesterol levels above normal values, as well as overweight and obesity. The work reality of truck drivers was described by Cubas (2009), who found a high rate of consumption of psychoactive substances by these professionals in Brazil, indicating that they are increasingly ingesting these substances for reasons such as long periods of wakefulness due to long distances to travel, short deadlines for delivery of goods, or to obtain more profit (especially for companies). Of the 279 drivers selected to participate in the survey, 9 were under the

influence of alcohol at the time of the interview; 7.6% reported driving after drinking so much that it would be considered illegal to drive a vehicle and 0.7% confessed to having an accident after drinking.

Lopes (2011) sought to identify the prevalence of alcohol consumption and test its association with sociodemographic, economic, work, and health variables among 925 public university employees. The prevalence of problem alcohol use was 13.19%, with 27.35% abstaining. *Binge drinking* was 36.75%, 5.8% had already caused problems to themselves or others after drinking, and 6.2% reported that some relative, friend, or doctor had already been concerned about their drinking. Regarding the levels of exposure to stress at work, 30.6% of the participants showed low wear and tear; however, 18.6% showed high wear and tear, which represents an occupational stress. According to Lopes (2011), among the aspects that represent greater chances of problematic alcohol use, the following were obtained: being a man, being a smoker, having an elementary school education. It was also observed that the shorter the bond with the institution, the lower the chances of problematic use of alcoholic beverages, a fact that denounces the existence of unhealthy aspects and mental health risk, in the reality of the work investigated.

Costa, Silva, and Silveira (2016) conducted a literature review study on possible associations between working conditions and alcohol consumption; they found 10 articles available and/or that showed an association between alcohol consumption and working conditions. The results showed that several risks (physical, chemical, and ergonomic), psychological demands, and lack of social support at work were possibly associated with improper consumption of alcoholic beverages.

Vidal, Abreu, and Portela (2017) conducted a study whose objective was to evaluate the association between psychosocial stress at work and the pattern of alcohol consumption in *offshore* workers (who perform oil exploration work). The study was cross-sectional, with 210 service providers in oil facilities located in the state of Rio de Janeiro, Brazil, between July and September 2014. The collection instrument consisted of a self-completed multidimensional questionnaire. The exposure to stress was evaluated according to the demand–control model and the pattern of alcohol consumption was evaluated by the *AUDIT (Alcohol Use Disorders Identification Test) instrument*. As a result, the authors observed that 15.2% of alcohol consumption was abusive. All participants in this study are submitted to a work shift scheme of 12 hours a day over 15 days followed by 15 days off, 62.4% work in fixed shifts. Multivariate analyses showed that workers exposed to high stress at work have a higher chance of abusive alcohol consumption when compared to non-exposed workers.

In a study that aimed to observe aspects related to alcohol consumption as a risk factor for work sickness in bank branch workers in the city of Alegrete, RS, Rodrigues et al. (2016) identified that, of the 94 participants, 14.9% consumed alcohol at risk, 1% of the bank workers had high-risk consumption, and 1% were likely to be addicted. According to the authors, these results indicate a high prevalence of alcohol consumption, which poses risk for mental illness among bank employees in this city, and there is a need for actions to promote the health of these workers.

Beck Filho, Amorim, and Maia (2016) conducted a study with 180 sugarcane-cutting workers from the municipality of Amélia Rodrigues (BA, Brazil), with the objective of estimating the prevalence and factors associated with alcohol consumption among these workers. This study pointed out that 50.0% of the sugarcane workers had alcohol abuse. This rate was associated with a feeling of sadness at the end of the working day, dissatisfaction with work, and low quality of life. This finding indicates the need for companies to establish, as a way to prevent this problem, a more adequate channel of communication with these workers, in order to favor the verbalization of the aspects that, in the relationship of these workers with their work, are a source of suffering, as well as it is the responsibility of companies to verify, through the work of the psychologist at work, the prevalence of signs of depressive disorders among these professionals, performing counseling and/or referral for treatment.

Halpern and Leite (2014) developed a study with sailors from Brazil, through participant observation, with 24 sessions, in two therapeutic groups, each composed of ten members. The results showed that there is an important influence of sociocultural factors in the production of alcoholism among these professionals. According to the authors of the research, drinking on board is a learned tradition, considering that there are opportunities to drink and easy access to alcoholic beverages, favorable norms that support consumption even in the work environment and naval traditions that, in a continuous and subtle way, spread beliefs and myths about the presence of alcohol in the life of the sailor. The authors also mention that the Brazilian Navy has an ambivalent position that stimulates and prohibits the consumption of alcoholic beverages on board, applying administrative and punitive measures, without clear criteria, which does not contribute to the prevention of the problem.

Roberto Conte, Mayer, Torossian, and Vianna (2002) proposed an approach to the use of drugs (licit and illicit) in the workplace, coming from an advice given to a large public company, which demanded a therapeutic and preventive project to treat the problem. As a result of the researchers' intervention in that company, a specific institutional policy was developed, based on the following tripod: (1) the implementation of a routine to guide the employees' approach to drug use at work; (2) the accreditation of treatment sites; and (3) the creation of committees led by employees, who became responsible for conducting the program after the end of the advisory work.

The effectiveness of this form of intervention can be explained from what Dejours (1996) and Mendes (1999, 2008) discuss about the importance of the involvement of the collective of workers in issues pertinent to well-being and their quality of life at work, a fact that favors the resignification of their suffering linked to work and encourages the use of creative strategies capable of protecting the health of the psychism. The interest of this collective of workers in relation to their own health functions as a factor of protection against the use of alcohol and drugs in companies. Roberto et al. (2002) emphasize the importance of the participation of as many employees as possible, especially those with decision-making power to sustain and implement a program of prevention of drug use in companies, as well as

the need to create a policy that intervenes with the employees of the work organization and that considers the administrative, operational, and health spheres. They also emphasize that the intervention carried out in the company represented a differential milestone between the way the problem of drugs in the company had been dealt with before, which oscillated between neglect and punishment.

According to the FIEP System (Federation of Industries of the State of Paraná, 2013), the SESI (Industry Social Service) in Paraná created a program called "Take Care," aiming to help increase the industry's productivity. This program seeks to improve the worker's quality of life through prevention and education. The "Take Care of Yourself" program provides elements for the worker to reflect on situations of risk to his health in relation to the abusive use of drugs, inside and outside the work environment, allowing the adoption of new behaviors and attitudes toward this risk, promoting educational actions focused on the acquisition of healthy life habits. From the point of view of labor psychodynamics, this initiative is valid as long as, in addition to this space that is offered to the worker to reflect on the factors that may be associated with risk behaviors such as the use of alcohol and drugs, he can also verbalize about the challenges of his labor practice, being able to participate actively and jointly with the management, in the search for possible solutions to the sources of his labor suffering.

According to Castro, Cleto, and Silva (2011), the prevention of risks in the safety and health of workers in the workplace involves not only addressing the professional conditions that may act as risk factors for the consumption of psychoactive substances, but also considering changes in organizational culture to promote the improvement of the quality of life at work, in an integrative manner. According to these authors, in order to define the policy for the promotion of occupational safety and health, which contemplates the prevention of the consumption of psychoactive substances among workers, an organizational diagnosis should be carried out among the different forms of intervention, measuring the level of knowledge about the problems of substance consumption, levels of consumption, attitudes toward consumption, and its regulation.

The work strategy of the authors mentioned above is in line with what workers consider important to experience quality of life at work, as Pettengill (2010) noted regarding the possibility of being valued for their contributions at work and to have adequate conditions to work, such as the worker being able to count on a program aimed at their safety and health protection.

Lacaz (2000) argues that practices aimed at quality of life at work (QWL) should allow a space for the worker's subjectivity, widening the possibility of apprehension of forms of illness at work in contemporary times, such as the use of alcohol and drugs, whose causality is increasingly complex and involves the organization of work and its relationship with the subjectivity of workers' collectives. Coming from Latin American Social Medicine, the field of workers' health considers the process of work as "an explanatory category that is inscribed in the social relations of production established between capital and labour" (Lacaz, 2007, p. 759).

QWL, for Ferreira (2008, p. 90), encompasses two interdependent perspectives, namely, on the one hand, the perspective of the organization and its practices aimed

at promoting individual and collective well-being and the exercise of organizational citizenship in the workplace and, on the other hand, the perspective of workers and their perception of what it is to have QWL, their experiences of well-being, their perception of institutional and collective recognition.

Faced with different ways of conceiving the QWL and, consequently, positioning in front of a possibility of preventing the use of alcohol and other drugs among workers, it seems sensible to locate the sources of suffering and illness of the worker from both the organizational and the individual spheres. However, scholars of labor psychodynamics (Dejours, 1986, 1992; Guareschi & Grisci, 1993; Mendes, 2008; Pettengill, 2010) warn and suggest that, before raising the hypothesis of etiology centered on the individual level and related mainly by variables coming from the history and psychodynamics of the particular subject, it is fundamental to ascertain whether the organization of labor has undertaken all that is necessary to preserve the worker's QWL: fair and adequate remuneration for the function, satisfactory working conditions for health, the possibility of developing their human capacity in the company, future opportunities for continuous growth and safety in the company, the possibility of establishing equal relations with professionals of the same hierarchical level and respect and accessibility with the highest hierarchies in the company, the possibility of having a balance between dedication to work and personal life, feeling proud to work in the company due to their social commitment, and the respectability gained by the company with society are important elements in this dynamic (Kurogi, 2008).

Thus, any strategy aimed at preventing the use of alcoholic beverages and other drugs by workers should be based on the observance of the aspects previously described as relevant to the preservation of the quality of life at work, aiming at the promotion of the worker's health as due attention is given to such aspects. The responsibility or even guilt directed only to the subject who falls ill, without first seeking to meet the needs and demands of the worker's relationship with his work, is configured as a reductionist intervention, partial, and unable to meet the purpose of development of the subject, in order to effectively protect his mental health.

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