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Alcohol-Related Cognitions among Children Aged 2–12: Where Do They Originate From and How Do They Develop?

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Introduction

Research on alcohol consumption has often focused on adolescence, the period when initiation usually occurs and when there is an increased risk of harm due to experimentation. Despite consumption of alcohol before the age of 10 being rare, young children are nonetheless exposed to alcohol in the home, on television, for example, which has the potential to shape their knowledge, thoughts, and beliefs as well as their future drinking behaviour. Thus, by the time adolescents initiate alcohol consumption (in Australia in 2016, for example, this was approximately 16.1 years; Australian Institute of Health and Welfare, 2018), they already know what alcohol is, who is

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R. Cooke et al. (eds.), *The Palgrave Handbook of Psychological Perspectives on Alcohol Consumption*, https://doi.org/10.1007/978-3-030-66941-6_15

drinking it in what context, and how they expect it to affect them. This makes them aware of the external influences on consumption covered earlier in this book (see Chaps. 6, 7, 8, 9, and 10). During the late 1980s and early 1990s there were a number of studies in this area; however, a recent review of literature on children's alcohol-related knowledge, expectancies, and norms found that only 3 of the 17 included studies were conducted after the year 2000 (Voogt, Beusink, et al., 2017). A similar systematic review of children's alcohol-related knowledge, attitudes, and expectancies conducted between 2000 and 2017 found only 24 relevant studies (Jones & Gordon, 2017). This chapter will provide an overview of recent evidence concerning alcohol-related cognitions (knowledge, norms/attitudes, and expectancies), including from where they originate early in life and how they develop as children grow older, and will consider theoretical perspectives on the topic. Such an investigation of young children's alcohol-related cognitions is important because knowledge begins to be established before drinking is initiated; what children observe and learn about alcohol at a young age is formative and a crucial factor leading to future drinking behaviour (Jester et al., 2015).

What Do Children Know About Alcohol?

Alcohol-Related Knowledge

Children as young two years old demonstrate some knowledge about alcohol; young children can distinguish between alcoholic and non-alcoholic beverages based on smell (Mennella & Garcia, 2000), by using photographs (Kuntsche, Le Mével, & Zucker, 2016), or in a role-playing scenario involving grocery shopping (Dalton et al., 2005). For example, 62% of 120 children aged between two and six in the United States, role-playing as adults using props and dolls, bought alcohol as part of everyday groceries and 35% purchased both beer and wine, the two types of alcohol on offer (Dalton et al., 2005). Children were more likely to purchase alcohol if their parents drank alcohol at least monthly (Dalton et al., 2005).

Kuntsche and colleagues (2016) report in their study of children in French-speaking Switzerland that only 45% of three-year-olds were able to correctly identify beverages containing alcohol, which they conclude was no different from random choice[1] and suggests a limited knowledge of alcohol at this age.

[1] Random choice is the accidental chance of picking an alcoholic beverage. In this study, half of the beverages were alcoholic. A one sample t-test was used to determine whether choice was significantly above the 50% random choice.

Mennella and Garcia (2000) on the other hand were able to demonstrate that three-year-old children can distinguish alcoholic from non-alcoholic beverages based on smell. Among three- to six-year-olds, girls were found to more accurately identify the content and name of alcoholic beverages compared to boys (Kuntsche & Kuntsche, 2019). At four years old, children begin to show more nuanced knowledge of alcohol, for example, demonstrating that while adults can consume alcoholic beverages, children are restricted to non-alcoholic beverages (Kuntsche, Le Mével, & Zucker, 2016; Voogt, Beusink, et al., 2017). From five years onwards, children begin to show more sophisticated understandings of alcohol as a substance and its effects. For instance, they can identify short-term health risks and social harms from consumption, including that a 'drunk' person may 'walk strangely' (Valentine, Jayne, & Gould, 2014). From approximately 11 years, children can articulate—in response to open-ended interview questions about the physical effects of drinking large amounts of alcohol—some understanding of the depressant effects of alcohol on the brain, however many did not know that alcohol enters the bloodstream (Sigelman et al., 1999).

Studies have found that alcohol-related knowledge increases with age (Kuntsche, Le Mével, & Zucker, 2016; Kuntsche & Kuntsche, 2019), for example, false beliefs (e.g. alcohol causes trouble breathing) became less common over time among a sample of 6–12-year-olds in the United States (Bridges et al., 2003). However, this was not a consistent finding across all research; Jayne and Valentine (2017) concluded that among their sample of 5–12-year-olds from the United Kingdom there were no obvious patterns of knowledge in terms of gender or age.

Alcohol-Related Norms and Attitudes Towards Drinkers

Alcohol-related norms can be person-specific, for instance, who commonly consumes alcohol, or situation-specific, for example, when and where it is common to drink alcohol. Between three and six years of age, children possess some understanding of situation-specific alcohol-related norms, attributing alcohol consumption more often to adults at a party than when engaging in outdoor activities such as having a picnic (Kuntsche, Le Mével, & Zucker, 2016). From the age of five onwards, children have been shown to be aware of person-specific norms, for instance, that adults are more likely to consume alcohol than children and that males are more likely to consume alcohol than

females and children (Kuntsche, Le Mével, & Zucker, 2016; Voogt, Otten, Kleinjan, Engels, & Kuntsche, 2017). Among more recent studies, only one revealed that girls had more knowledge of alcohol-related norms compared to boys, as they less often assigned alcoholic beverages to children compared to adults (Kuntsche, Le Mével, & Zucker, 2016; Voogt, Beusink, et al., 2017).

Finally, children's alcohol-related attitudes are a combination of beliefs, values, and feelings that influence individual responses to people, items, or situations (Velleman, 2009a). Attitudes can be implicit, activated automatically (see Chap. 3), or explicit, which require a level of introspection and are evaluated through self-report measures (Payne, Lee, Giletta, & Prinstein, 2016; see Chap. 2). Children's alcohol-related attitudes were assessed among three and eight years old (Mennella & Garcia, 2000; Mennella & Forestell, 2008), through odour-based tasks that examined hedonic responses to alcohol. Children identified pleasant or unpleasant odours through the attribution of a toy, either Big Bird (pleasant odours) or Oscar the Grouch (unpleasant). Another dimension of children's alcohol-related attitudes is children's acceptance of alcohol use behaviours. For example, whether sipping, which involves taking a small mouthful or a sample of a beverage (and in relation to alcohol often involves parents providing children with small tastes or sips out of their own glass), is wrong or not. Children's attitudes towards sipping are reported to become more positive between 11 and 12 years of age (Prins, Donovan, & Molina, 2011). Researchers hypothesise that this is the time when parents become less important and other sources of influence, such as friends and the media, begin to exert more influence (Prins et al., 2011).

Alcohol Expectancies

Alcohol Expectancies (AE) are personal beliefs about the consequences of substance use (Jones, Corbin, & Fromme, 2001). In Alcohol Expectancy Theory, individuals hold expectations of certain reinforcing effects that result as an outcome of behaviour (Goldman, Brown, & Christiansen, 1987; Jones et al., 2001; see Chap. 2). Expectancies operate as a function of long-term memory, impacting processes that govern both current and future behaviour. Expectancies can be considered explicit and assessed via questionnaires, or implicit and measured, for example, using an Implicit Association Task (IAT; see Smit et al., 2018; Thush & Wiers, 2007). AE are most commonly assessed through endorsement (agree/disagree) or perceived likelihood of an effect occurring (likely/unlikely). Subjective endorsement has been suggested as particularly important, as 'the more favourably people evaluate the

impairment effects of drinking, the greater their overall alcohol use' (Jones et al., 2001, p. 62). However, simply having a certain expectancy or belief does not necessarily lead to behaviour (see Chap. 4 for a review of the evidence that AE predict consumption). Although an individual may hold a certain belief about the potential positive or negative effects of alcohol, they will only use a substance if they are motivated or desire to achieve that outcome (Cooper, Kuntsche, Levitt, Barber, & Wolf, 2016). Expectancies remain important as people who do not hold a certain belief or expectancy are unlikely to use alcohol to achieve that effect (Jones et al., 2001).

AE develop before children have had their first drinking experience. Expectancies are particularly important for young children, as a first-time drinker, with little to no direct experience, will be guided by their expectations of the effects of alcohol (Leigh, 1989). The theoretical processes thought to underlie the acquisition of AE at a young age (before alcohol initiation) are based on social learning principles (Bandura & Walters, 1977; Bandura, 1986; Campbell & Oei, 2010) and are shaped by environmental influences (discussed below). Predictors of adolescent alcohol use are divided into individual (e.g. alcohol-related cognitions, personality, genetic, and behavioural) and environmental (e.g. family, peers, and media) factors, with AE operating as mediators of the link between different individual and environmental predictors of alcohol use (Settles, Zapolski, & Smith, 2014; Treloar, Pedersen, & McCarthy, 2015; Banks & Zapolski, 2017; Smit et al., 2018).

Although the focus of this chapter is on recent research, it is important to first take a step back to briefly overview the work of Brown et al. (1980; Brown, Christiansen, & Goldman, 1987) on expectancies that began a long-documented association between adolescents' AE and alcohol use, which drives much of the present work. In the 1980s, expectancy research focused largely on positive expectancies associated with alcohol consumption; it wasn't until the 1990s that the predictive power of negative expectancies began to be explored in more depth. A simplistic explanation sees positive expectancies representative of motivation to consume and negative expectancies representative of motivation to restrain (Jones et al., 2001). In cross-sectional studies among adolescent and adult populations, positive expectancies have been found to predict alcohol use (Fromme, Stroot, & Kaplan, 1993; Leigh & Stacy, 1993) and have been suggested to predict successful treatment outcomes for problem drinking (Goldman, 1994). Dunn and Goldman (1996) found that the number and types of alcohol expectancy dimensions described for adults were also found for children. For example, alcohol expectancy dimensions can be conceptualised in terms of Russell's Circumplex Model of Affect (1980), created by crossing the dimensions of valence and activation

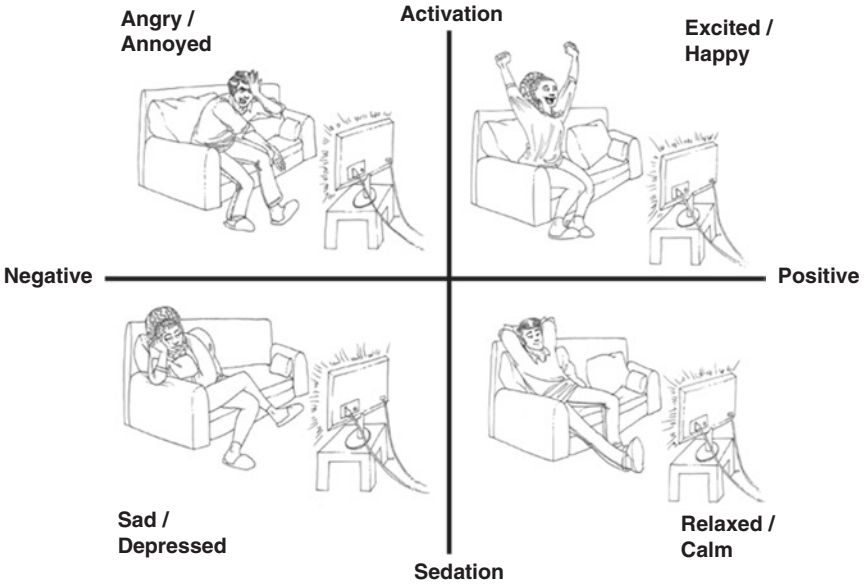

Fig. 15.1 Scenario examples from the AET in relation to the Circumplex Model of Affect. Note: Illustrations provided are examples. A wide range of emotions are represented for each person/gender in the full AE Task. The authors would like to thank Florian Labhart for writing the AET software; Caroline Tschumi for creating the AET drawings. (Kuntsche & Kuntsche, 2017)

(Wiers, 2008), resulting in four emotional categories: sedation positive, sedation negative, arousal positive, and arousal negative (see Fig. 15.1).

Children's Alcohol Expectancies

While some research has suggested that AE exist from the age of six (Jester et al., 2015; Mares, Stone, Lichtwarck-Aschoff, & Engels, 2015), other studies have suggested that by the age of four children already have certain AE and are able to recognise the emotional changes resulting from alcohol use (Donovan et al., 2004; Kuntsche, 2017; Voogt, Beusink, et al., 2017). Donovan et al. (2004) were able to demonstrate among three-year-olds that AE are precursors to alcohol use, significantly predicting early drinking onset. Similarly, using the Beverage Opinion Questionnaire, positive AE among six- to eight-year-olds have been shown to predict initiation and Heavy Episodic Drinking (HED; see Chap. 1) even nine years later (Jester et al., 2015). AE are predominantly negative in young children and endorsement of positive AE has been found to increase with age (Bridges et al., 2003; Chung, Hipwell,

Loeber, White, & Stouthamer-Loeber, 2008; Colder et al., 2014; Copeland, Proctor, Terlecki, Kulesza, & Williamson, 2014; Patrick, Wray-Lake, & Maggs, 2017), with the greatest shifts seeming to occur in the year after initiation or between 10 and 12 years (Donovan, Molina, & Kelly, 2009; Copeland et al., 2014; Smit et al., 2018). Studies assess AE using a variety of methods including open-ended interviews (Bridges et al., 2003), the Alcohol Expectancy Questionnaire-Adolescent (Copeland et al., 2014) or similarly structured questionnaires (Chung et al., 2008; Jester et al., 2015; Patrick et al., 2017), and IAT (Colder et al., 2014).

While positive AE have been found to increase with age, several studies have found that negative AE either remain stable over time (Bridges et al., 2003; Cameron, Stritzke, & Durkin, 2003; Colder et al., 2014) or slightly diminish with age. For instance, a study with Australian primary school children, aged between 8 and 12 years, found consistent negative and positive expectancies, rather than a predominance of one over the other (Cameron et al., 2003). Assessing three- to six-year-olds' knowledge of the emotional changes that result from alcohol consumption in Switzerland, Kuntsche (2017) found no significant age differences. Among six- to nine-year-olds from the Netherlands, Mares et al. (2015) found that older children in their sample held fewer positive expectancies and more negative expectancies. Colder et al. (2014) found that negative expectancies were still dominant at 10 years, but became more neutral during the transition to adolescence. While both expectancy theory and the results discussed suggest that more positive AE increase the likelihood to drink, the direction of causation of the association has been hypothesised to be reciprocal, whereby experiences also lead to changes in expectancies about the effects of alcohol (Slutske et al., 2002; Jester et al., 2015; Smit et al., 2018). See Table 15.1 for an overview of alcohol-related cognitions from 2 to 12, which demonstrates that many cognitions are first evident well before 7 years.

Acquisition of Alcohol-Related Cognitions: Theoretical Considerations

The theoretical processes thought to underlie the acquisition of alcohol-related cognitions are based on social learning principles and are shaped by environmental influences. It is important to state that the way young children learn about alcohol is no different from how they learn about any other concept or idea (Velleman, 2009b). Children learn many of the formative skills

Table 15.1 Age and alcohol-related cognitions

Age	Alcohol-related cognition operationalisation	Study (year)
2	Purchase alcohol in a shopping scenario[a]	Dalton et al. (2005)
3	Distinguish between alcoholic and non-alcoholic beverages using photographs and by odour[a]	Mennella and Garcia (2000)
	Knowledge of situation-specific alcohol-related norms[b]	Kuntsche and Kuntsche (2019)
	Accurately identify the content and name of alcoholic beverages[a]	Kuntsche, Le Mével, and Zucker (2016)
		Voogt, Otten et al. (2017)
4	Appreciation of gender-specific drinking norms[b]	Kuntsche, Le Mével, & Zucker, 2016
	Understand the age restrictions on consumption[a]	
	Recognise emotional changes resulting from alcohol use[c]	Kuntsche (2017)
5	Identify short-term health risks and social harms[a]	Valentine et al. (2014)
	Communicate factual and negative information about alcohol[a]	Hahn et al. (2000)
	Knowledge of person-specific alcohol-related norms[b]	Kuntsche, Le Mével, and Zucker (2016)
	Identify the name of alcoholic beverages based on their odour[a]	Mennella and Forestell (2008)
	Knowledge of how a drunk person may act[a]	
6	Have explicit and mostly negative expectancies about the effects of alcohol[c]	Kuntsche, Le Mével, and Zucker (2016)
	Believe alcohol will result in negative short-term outcomes[c]	Bridges et al. (2003)
7	****	
8	Boys are more likely than girls to identify alcohol[a]	Andrews, Tildesley, Hops, Duncan, and Severson (2003)
	Boys are more likely than girls to intend to drink alcohol when older[b]	Cameron et al. (2003)
	Hold consistent negative and positive expectancies[c]	Mares et al. (2015)
	Believe it is normal for mothers not to drink alcohol[b]	
9	****	
10	****	
11	Alcohol behaviours (i.e. sipping) become more acceptable[b]	Prins et al. (2011)
	Understand the depressant effects of alcohol on the brain[a]	Sigelman et al. (1999)
12	False beliefs about the effects of alcohol become less common[a]	Bridges et al. (2003)

Note: Cognitions reported in this table are reported at the age at which they first become evident, which of course may not be consistent for all children or consistent across all cultures. Cognitions are present at each stage afterwards and as discussed often become more nuanced with age

[a]Knowledge

[b]Norms and attitudes

[C]Expectancies

***In the studies reviewed between 2000 and 2019 no *new* cognitions have been found at this age

and knowledge needed to perform or engage in a behaviour from an early age through modelling and observation of adults. Indeed, the mechanisms behind the acquisition of alcohol-related knowledge and many of the same theoretical processes, for example, Social Learning Theory (Bandura & Walters, 1977), socialisation (Donovan, 2016), and the Cognitive Model of Intergenerational Transference (Campbell & Oei, 2010), underlie general learning especially at a young age.

Social learning models of alcohol consumption hold that people form alcohol-related cognitions from their social and cultural environment. First, Social Learning Theory (SLT) postulates behaviours are learned through observation and subsequent modelling directly from parents and peers (primary social factors) and indirectly via, for example, the media (indirect reference groups) (Bandura & Walters, 1977; Bandura, 1986; Kobus, 2003). These influencers operate directly (e.g. through social reinforcement or sanctions) or indirectly (e.g. by influencing attitudes, norms, or beliefs) to affect alcohol use. When observing a behaviour, children form an idea about how to perform the behaviour, and what is achieved when the behaviour is performed (i.e. what the behaviour is good for). When an opportunity then arises to perform this behaviour, even years later, this knowledge is put into practice.

Second, socialisation is the fundamental process by which children learn about their culture and the expected behaviours of their society (Velleman, 2009a; Donovan, 2016). The core principles defined by SLT underlie primary socialisation theory which suggests four primary social contexts (family, media, peer clusters and school) through which norms and behaviours are learned (Kobus, 2003). This theory emphasises the relational bonds between social contexts that act as channels through which information is shared (Kobus, 2003). Finally, the Cognitive Model of Intergenerational Transference suggests that the observation of parental drinking habits contribute to what a child knows about alcohol (knowledge), its use in adult culture (norms), and what happens when alcohol is consumed (expectancies) (Campbell & Oei, 2010; Voogt, Beusink, et al., 2017). Like SLT, the Cognitive Model of Intergenerational Transference suggests that children will not immediately adopt the behaviours they see, but that children's cognitions mediate the behaviour; there may be a period of time between observation and modelling during which children process what they have seen, potentially in relation to other observed behaviour (Mares et al., 2015). According to these theoretical perspectives, alcohol use is considered as a learned response to the complex interaction of individual and environmental stimuli. These three theories all hold that behaviour is in some part learnt through observation. It is, however, the direct experience with a new behaviour (positive or negative) that

determines whether it persists. Consequently, once children begin to have experience (i.e. consume alcohol themselves), observations of others consuming alcohol become less important (Kobus, 2003).

Influences on Alcohol-Related Cognitions

Family/Parental Influences (See Also Chap. 16)

One of the most commonly explored sources of children's knowledge of alcohol is the family and in particular parents. The effects of parenting on children's cognitions (and on behaviour) vary, depending on the age of the child, but consistently remain the most important pre-initiation influence. Evidence indicates that it is not parental drinking per se which has a direct impact on the alcohol-related cognitions, but rather young people's exposure to this consumption, that is, when parents or other adults drink alcoholic beverages in the *presence* of children and children see the consequences of their drinking (Smit et al., 2019). For example, drinking may occur when children are in bed or outside of the home, for example, after work, when children aren't around, compared to drinking at the dinner table when children are present (Voogt, Beusink, et al., 2017). Differences in children's exposure to observable behaviour and its consequences have been postulated as an explanation for the divergence in findings on children's alcohol-related cognitions (Voogt, Beusink, et al., 2017). In a Dutch study of 10–13-year-olds, exposure to parental drinking has been shown to mediate the relationship between parental alcohol use and pre-teen use (Smit et al., 2019). Among three- to six-year-olds, knowledge and alcohol-related norms (e.g. drinking being more common among men and at parties) were higher when parents drank frequently, at a higher quantity or during meals (Kuntsche & Kuntsche, 2019).

Additionally, exposure has been shown to have an impact not only on cognitions but on alcohol-related behaviour, for example, children's sipping of alcohol (Donovan & Molina, 2008, 2014; Jackson, Ennett, Dickinson, & Bowling, 2013). Sipping small amounts of alcohol—common practice among children aged between 6 and 12 years (Andrews et al., 2003; Zucker, Donovan, Masten, Mattson, & Moss, 2008; Jackson, Ennett, Dickinson, & Bowling, 2012)—is often viewed by parents as a controlled introduction to alcohol (Ward, Snow, & Aroni, 2010). As a first experience, sipping is often driven by adult's concern to ensure a supervised introduction to alcohol rather than

being driven by children themselves (Ward et al., 2010). However, sipping alcoholic beverages by children and young adolescents instigates their curiosity about alcohol. This early drinking, including sips or tastes, has been shown to be connected to earlier and more harmful patterns of alcohol use in adolescence (Zucker et al., 2008; Donovan & Molina, 2011; Jackson, Barnett, Colby, & Rogers, 2015; Sharmin et al., 2017; Colder, Shyhalla, & Frndak, 2018). Despite its potential harm, it remains most common for sipping to occur in the home or family environment often attached to social or celebratory occasions, with few young children ever trying alcohol without their parents' knowledge (Andrews et al., 2003).

Adopting a socialisation perspective, Ennett et al. (2016) explored sipping as a powerful learning experience through which it may be instilled upon a child that drinking is an approved practice, setting a behavioural precedent. Briefly, more frequent parental alcohol consumption has been found to be associated with the belief that sipping by children is possibly protective and with less disapproval of their own children engaging in sipping of alcoholic beverages (Ennett, Jackson, Bowling, & Dickinson, 2013). Setting such a precedent may in turn make repeated and continued sipping more likely, particularly in the transition from childhood to adolescence. In a study conducted in the United States, at least one in five mothers thought of sipping as a deterrent to use through removing the 'forbidden fruit' appeal of alcohol and because children would not like the taste (Jackson et al., 2012). However, this remains contrary to other research suggesting children who had engaged in sipping by 10 years old were almost twice as likely to begin drinking before 15 (Donovan & Molina, 2011; Smit et al., 2018). Research from Australia on the supervised introduction to alcohol by parents found that 'there is no conclusive evidence that the consumption of sips of alcohol in early childhood is in the long-term, harmful or protective against alcohol-related problems in adult life and arguments to the contrary suggest correlation but not causation' (Ward et al., 2010, p. 274).[2]

It is important to note that the effects of sipping on future drinking behaviour may depend on cultural differences. On the one hand, in Southern European countries where light alcohol consumption is integrated into daily life, associated with food, and per capita consumption is relatively low (Room, 2010), sipping may not be associated with any long-term consequences—this experience cannot, necessarily, differentiate those who go on to misuse

[2] It is worth noting that researchers have raised concerns about using 'age at first drink' (a concept relied upon in many of these studies). For a discussion of the potential limitations, see Kuntsche, Rossow, et al. (2016).

alcohol from those who do not because it is norm for all children to sip alcohol. On the other hand, in cultures where HED is more prominent (e.g. Australia, the Netherlands, the Republic of Ireland, the United Kingdom), sipping might lead young people to become more curious about alcohol and because the norm for drinkers in these countries is to drink heavily, initiating curiosity in children may bring about long-term consequences as they seek to model normal drinking behaviour. Currently, there is a limited understanding of consequences of sipping as a function of cultural differences, especially because much international evidence excludes sips as a measure of consumption among younger participants (Donovan & Molina, 2008).

While research is still in its infancy, several studies have found associations between parental alcohol use and children's alcohol-related cognitions (Donovan & Molina, 2008; Voogt, Beusink, et al., 2017). In a UK study, children (aged 11) of parents with alcohol problems reported lower perceived risk of harm from drinking (Patrick et al., 2017). Observation of parental alcohol use was also found to predict positive AE among non-drinkers (12 years old) in Taiwan (Ting, Chen, Liu, Lin, & Chen, 2015). In Switzerland, replicating findings from earlier studies in the United States (Miller, Smith, & Goldman, 1990), children's AE were related to their parent's consumption, specifically children of heavy drinking parents developed stronger associations with negative effects of use (Kuntsche & Kuntsche, 2018). Recent research by Kuntsche and Kuntsche (2019) provides the first empirical evidence that children's knowledge of alcohol is associated with parental consumption as early as three years old. Research from the United Kingdom found that children were only able to correctly identify alcoholic beverages that their own parents or relatives drank, that is, those who existed in close proximity in children's social worlds (Valentine et al., 2014; Jayne & Valentine, 2017).

Some studies have identified gender differences in the association between parental alcohol use and offspring's alcohol-related cognitions. For instance, paternal alcohol use has been found to have a stronger association with children's expectancies compared to maternal alcohol use among 10-year-olds (Handley & Chassin, 2009; Pieters, Van, Engels, & Weirs, 2010), and in some cases this influence is stronger for boys (Handley & Chassin, 2009; Kuntsche & Kuntsche, 2018). To measure AE in young children, Mares et al. (2015) used the Berkeley Puppet Interview (BPI) which involves the use of two hand puppets. Children are asked whether they would agree with the positive or negative statements the puppets say, that is, 'adults become happy when they drink alcohol' or 'adults do not become happy when they drink alcohol'. Researchers found that among girls (mean age of eight years) more parental alcohol use was associated with less negative AE (Mares et al., 2015).

This study also found that mother's alcohol use was associated with less positive expectancies, while father's alcohol use was associated with more positive expectancies among the older children in their sample, potentially indicating (as suggested by the authors) that children believe it is non-normative for mothers to drink alcohol (Mares et al., 2015). However, much of the evidence on the relative impact of mothers versus fathers is somewhat mixed and many studies lack information on fathers' drinking, instead focusing only on mothers.

Parents often consider children under 12 years to be too young to know about or to begin learning about alcohol. Jayne and Valentine (2017) found that most parents of the children in their sample (aged 5–12) did not have rules relating to alcohol consumption, based on the assumption that children at this age do not engage in or are interested in alcohol consumption. However, as Valentine et al. (2014) suggest, the 'banal omnipresence' of alcohol in everyday life and particularly in familial spaces such as the home, mean parents are unintentionally modelling drinking to children, arguably from birth. Problematically, parents and other adults most commonly model the positive aspects of drinking to their children, and usually make sure to avoid demonstrating any negative consequences of drinking, including drinking to excess, meaning children are presented with a potentially very one-sided view of the effects (Jayne & Valentine, 2017). This suggestion is interesting when considering research on expectancies which shows that they are primarily negative at a young age (Kuntsche & Kuntsche, 2018). However, research has shown that alcohol dependence in parents is still associated with positive AE (Smit et al., 2018). While again these results may be related to children's perception of problematic drinking patterns, this suggests that the solution to the predominance of positive modelling may not just be increased negative modelling. Research has suggested that observation of problematic drinking patterns, that is, drunkenness, instead affects children's view of their parents as positive role models (Foster, Bryant, & Brown, 2017). Furthermore, the results presented here may be an example of the mixed information children receive from their immediate environment despite what parents report.

Other Considerations

As mentioned, parents are the primary influence on alcohol-related knowledge at a young age and while there are a range of others, the literature on these remains more limited. For example, extent of knowledge is inextricably interwoven with peer relationships. In saying this, peers are often far more

influential for adolescents than for young children regarding alcohol consumption; as children move into adolescence, peer relationships generally become more important and all-encompassing (Patrick, Schulenberg, Maggs, & Maslowsky, 2016). For instance, peer alcohol use has been found to be associated with more positive AE among students aged 11–12 years (Ting et al., 2015). It may be interesting to consider whether during early childhood, children experience any peer effects, that is before the age of 10 if alcohol plays any role in peer interactions. Briefly, at this young age genetics play less of a role in influencing alcohol-related cognitions and behaviour, also becoming more important after 12 years once drinking has been initiated (Dick, 2011; Agrawal et al., 2012).

While many studies hypothesise the effect of media on the acquisition of alcohol-related knowledge, there is a notable absence of research formally investigating this relationship in young children. A study conducted in New Zealand by Casswell (1996) found that more than one-third of nine-year-olds cited television as a source of their knowledge, whereas in a recent study in Switzerland, no relationship was found between the frequency of television viewing per day and alcohol-related knowledge among three- to six-year-olds (Kuntsche & Kuntsche, 2019). However, the past 10 years have seen radical changes in the media landscape with increasing integration into our everyday lives, including social media—that is, Facebook and Instagram, streaming services, that is Netflix and YouTube—and the ubiquitous use of mobile phones and tablets. Researchers are only just beginning to explore what effect this may have generally, with a noticeable gap in relation to young children's developing alcohol-related cognitions between 2 and 12 years. It is briefly worth noting that research has suggested that any potential influence the media may exert can be offset through open communication and discussion promoting critical thinking about the messages being shown, and parental monitoring involving clear rules (Velleman, 2009a; Van den Eijnden, Van De Mheen, Vet, & Vermulst, 2011).

Limitations and Future Research Directions

There are several limitations to existing research on young children's alcohol-related cognitions. First, much of the evidence collected so far has been from cross-sectional study designs that restrict the causal conclusions that can be drawn (Voogt, Beusink, et al., 2017, see Chap. 2). In the literature reviewed in this chapter, there is a noticeable lack of evidence from large-scale epidemiological studies including children under 10 years (Zucker et al., 2008).

Furthermore—with the notable exception of Voogt, Otten, and colleagues (Voogt, Otten, et al., 2017)—evidence collected in these studies is primarily from non-representative and small convenience samples which enhances the risk of selection bias impairing external validity and generalisability. As a result, future research needs to focus on obtaining more representative samples (Voogt, Beusink, et al., 2017).

Another major limitation of the current research studies is the use of measures originally developed to assess adult cognitions, then adapted for college population groups and adolescents, and finally adapted again for children (Donovan, 2014). Such adaption ignores the fact that children are both different developmentally and articulate their experience of the world in individual ways to adults. In the past, the BPI was transferred from assessing children's general psychopathology (Stone et al., 2014) to assessing children's alcohol-related cognitions (Mares et al., 2015; Kuntsche & Kuntsche, 2017). However, the BPI was particularly burdensome for both child participants and researchers administering the task. Thus, researchers began to look for alternatives. Recently, several age-appropriate methods were developed specifically for young children, including the electronic Alcohol Beverages Task (eABT; Kuntsche, Le Mével, & Zucker, 2016) and the Alcohol Expectancy Task (AET; Kuntsche & Kuntsche, 2017), which have been validated as suitable for assessing alcohol-related cognitions among children. The AET, for example, overcomes limitations of previous measurement tools such as questionnaires, by using illustrated scenarios displayed on a tablet computer of people in everyday situational contexts displaying different emotional states (see Fig. 15.1). The tasks use of photographs of both alcoholic and non-alcoholic beverages avoids asking respondents potentially inappropriate questions that may encourage them to drink (Kuntsche & Kuntsche, 2017).

Studying young children provides opportunities for important insights including cross-generational perspectives, particularly as the experiences of adults and children vary immensely (Valentine et al., 2014). Research is often limited by adult views on what are children's best interests, which are suggested to be predicated on deterministic theories of child development and often result in the exclusion of children's own experiences of factors that impact on their life world (Valentine et al., 2014). It has been suggested that the lack of empirical first-hand evidence on young children's alcohol-related cognitions stems from the methodological constraints and challenges (and by extension we would also include ethical concerns) of engaging young children in research using traditional methods: that is, they cannot read or write proficiently, have limited language skills, and can be easily influenced by the interviewer or by the way questions are phrased (Kuntsche, Le Mével, & Zucker, 2016). Those

age-appropriate methods available tend to be both financially and time costly requiring set-up, rely on recording, transcription, coding, and time intensive data entry into electronic databases for analysis (Kuntsche, Le Mével, & Zucker, 2016). Similar challenges in measurement at this age exist in trying to separate the impact of children's rapidly changing cognitive and language abilities from their cognitions (i.e. what is children's increasing capacity to articulate their knowledge as opposed to what is an increase or change in knowledge). In creating age-appropriate methodological approaches, such as the eABT and the AET discussed, researchers must negotiate these challenges.

Next to more age-appropriate measurements, it has been speculated that children learn about alcohol by overhearing adult conversations about alcohol and its effects (Kuntsche & Kuntsche, 2019). However, more research is needed to come to firmer conclusions in this respect. Moreover, researchers should also investigate the extent to which young children understand adult conversations of alcohol or are simply repeating what they have heard. Qualitative interviews with young children provide an opportunity to elicit such nuanced, first-hand, and detailed information. While recent developments in neutral and age-appropriate measurement tools have been made, such quantitative methods only tell half the story and we need to adopt and integrate qualitative methods, particularly among younger participants, to understand what young children know about alcohol, how young children conceptualise alcohol, and the origins of this knowledge. Furthermore, by engaging young people in research we can begin to confront and address young children's knowledge and the possible transition to problem-drinking patterns in meaningful ways that are acceptable to children. Although advocating for more evidence from children themselves, we acknowledge that evidence provided by parents (and other sources) are still required to build a comprehensive picture of the origins of children's alcohol-related cognitions (Kuntsche, Le Mével, & Zucker, 2016).

Finally, research is needed from different national and cultural contexts, as most of the studies reviewed in this chapter are from Anglophone and/or northern European countries (i.e. the Netherlands, Switzerland, the United Kingdom, the United States). This should include a more diverse range of countries and cultures including those across central, eastern, or southern European countries, lower-income countries, and those with a 'dry' alcohol culture (e.g. where alcohol is more restricted and less integrated into daily life; Room, 2010). For example, it would be interesting to explore what young children in India, which historically experiences high abstention rates among females (Benegal, 2005), know about alcohol. Future research may also wish

to explore developmental trajectories, for example, what general knowledge is needed before alcohol-specific knowledge begins to develop, and whether norms and expectancies develop at the same time or whether one proceeds the other. Moreover, it is important to continue to investigate longitudinally whether the acquisition and development of alcohol-related cognitions in young children are predictive of alcohol use initiation in early adolescence and subsequent use in middle and late adolescence and (young) adulthood.

Conclusions

Taken together, the review presented in this chapter provides a compelling rationale for engaging in research with young children on their lived experience with alcohol. Examining alcohol from a child's perspective may allow us to see 'the world anew' as it were, providing new perspectives to an ostensibly enduring substance embedded in everyday practices. The development of alcohol-related cognitions is an ongoing process, in covering from age 2 to 12 we have only detailed a small portion of this trajectory, which will continue throughout adolescence and adulthood. It must be remembered that the way young children learn about alcohol and its use is no different from how they learn about any other concept or idea and it is important not to make alcohol out to be a special case. However, investigation of young children's alcohol-related cognitions is imperative, as what children observe and learn about alcohol at a young age is formative, and a crucial factor leading to future drinking behaviour. Finally, several important conceptual questions and an array of future research directions remain. Researchers should look to qualitative methods entwined with the adoption of a child-centred perspective, to begin to establish a more nuanced and wholesome picture of children's alcohol-related cognitions in the twenty-first century.

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