

# Young Women in the "Digital Generation"—New Risks and New Opportunities

16

Anna Rita Atti, Lucia Rossi, and Diana De Ronchi

#### **Key Points**

- Adolescents' brains are particularly sensitive to surrounding influences.
- The most of mental disorders start by the mid-teens and the mid-20s.
- Less than half of adolescents with mental health problems receive an appropriate care.
- Digital natives are in between new risks (hyper-connection and Internet addiction, Web-based unhealthy lifestyle promotion, cyberbullying, grooming) and new opportunities (Web-based professional help)
- There's a strong need for developing a proper digital education encompassing families, institutions, media, and therapists.

A person between 10 and 19 years of age is conventionally framed as an adolescent. Apart from age, biological changes and social transitions occurring in those years have a deep influence in adolescence advent. Such changes are largely socioculturally mediated, and therefore adolescence occurs at different moments in different areas of the globe and across different societies. In addition, two other variables need to be taken into account to define adolescence: (1) sex, as adolescent girls reach biological maturity up to 2 years ahead of adolescent boys, and (2) gender, as expectations and societal norms differ significantly between boys and girls in most societies.

Adolescence, "the conjugator of childhood and adulthood" as suggested by the psychologist Louise J Kaplan, represents one of the more complex phases of human development as during the "teen years" childhood experiences sediment to become the foundation of the adult identity. Adolescence is probably the most important transitional period in life as adolescents' brains are particularly sensitive to surrounding influences [1] (Fig. 16.1).

A. R. Atti ( ) · L. Rossi · D. De Ronchi

Department of Biomedical and NeuroMotor Sciences, University of Bologna, Bologna, Italy e-mail: annarita.atti@unibo.it

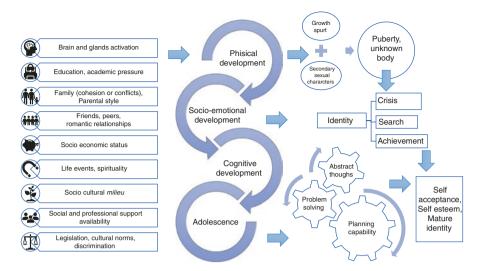


Fig. 16.1 Adolescence at a glance

Adolescents experience, at different levels, many interplaying factors influencing both current and future physical and mental health. The adolescent is a subject in between the past and the future, he/she is in a process of personal transformation, child-hood seems really far, and sudden changes, both physical and psychological, must be faced. Adolescent boys and girls have to learn to recognize themselves in new bodies. According to the "Report of the *American Psychological Association* (APA) Task Force on the Sexualisation of Girls" [2], this is especially relevant for young women who face the objectivation and sexualisation of female icons in contemporary Western media. The report highlights the sexualized content of mainstream teen magazines, music videos, and music lyrics and the trend towards sexy clothing sponsored for young girls. "The world has not paid enough attention to the health of adolescents", warns the *Family, Women's and Children's Health*, of the WHO, as psychological health appears to be more fragile in this age group with respect to the other age groups.

The first cause of illness and disability in this age group is depression, whereas suicide ranks number three among causes of death. The probability of depressive symptoms affecting adolescents' daily living rises from around 5% in early adolescence to 15% by late adolescence [3]. The female preponderance in adolescent depression is impressive (about 2:1) with even larger gender difference in middle to late adolescence [3]. Unfortunately, even in high-income countries, less than half of adolescents with mental health problems receive an appropriate care, whereas in low- and middle-income countries, the access to treatment is scarce.

Promoting healthy behaviours during adolescence is critical for the prevention of health problems in adulthood: roughly, half of all lifetime mental disorders in most studies start by the mid-teens and three-fourths by the mid-20s [4]. Several factors influence adolescent vulnerability to physical and mental problems. Besides

individual factors (gender, education) and family and peer influences, at an institutional level (school, health system, religious affiliation), the availability of facilities, education, and preventive programmes has a strong impact on young mental health. In addition, cultural practices and unwritten norms spread by mass media and digital interactive media have an additional power especially on adolescents. Table 16.1 reported a list of both risk and protective factors in early and late adolescence (see Table 16.1).

#### 16.1 The Digital Generation

The constant exposition to new technologies is a critical factor for an adolescent's mental health. Individuals born between the end of the 1990s and the early 2000s are known as "digital natives". Having grown up surrounded by technologies, the "digital" generation has developed different thinking and learning patterns from the previous "paper" generations [5]. "Digital natives" are synthetic and fast, and they have a different concept of space, time, and an altered idea of confidentiality and identity and, in everyday life, exhibit constantly "multitasking" behaviours. They are hyper-connected and constantly engaged in exchanging virtual information, activities for which they use a new figurative language [6]. New technologies have therefore changed the bond with their own identity, the relationship with inner psychic life, and the processes of consolidation of self-sense. Today's relationships are multifaceted, simultaneous, and short-lived [7]. The ways of communicating between friends, boyfriends, and family members have changed together with new ways of controlling and monitoring interactions. The network provides adolescents with opportunities never experienced, such as the access to a wide array of resources and information and the possibility to communicate in real time with peers from all over the planet. This is a unique chance for facilitating learning and intercultural knowledge but at risk of unclear or even dangerous information. Indeed, information found on social network home pages are generally quick and superficial and thus are at risk of being exploited and misused. The major risk is related to the amplification: even a single aberrant content can have a wide media coverage because thousands of users share it. Exposure to this kind of information could have repercussions on those who are still incapable of critical evaluation, such as adolescents.

The use of the Internet can be dangerous but can also provide useful information such as health promotion and sexual education. Furthermore, some benefits in adolescents lacking of daily off-line relationships need to be recognized. However, despite the large potential and abundant usage by young people, limited research is available on apps and health promotion for adolescents. Apps can enable users to set targets, enhance self-monitoring, and increase awareness [8]. A literature review, for example, identified 193 articles on Apps use as health promotion tools and a need for culturally appropriate and tailored health messages to increase knowledge and awareness of health behaviours such as healthy eating. Participants prefer

Table 16.1 Risk and protective factors in early and late adolescence

	Risk factors			Protective factors		
	Individual	Family	School, peers, community	Individual	Family	School, peers, community
Early	Poor impulse	Permissive parenting	School failure	Mastery of academic	Consistent	Healthy peer
adolescence control	control	or harsh discipline	Low commitment to	skills (math, reading,	discipline	groups
	Low harm	Parent-child conflict	school	writing)	Language-based,	School engagement
	avoidance	Inadequate	Peer rejection	Following rules for	rather than	Positive teacher
	Sensation seeking	supervision and	Deviant peer group	behaviour at home, at	physical, discipline	expectations
	Lack of	monitoring	Peer attitudes	school, and in public	Extended family	Effective classroom
	behavioural	Low parental warmth	towards drugs	places	support	management
	self-control/	or hostility	Interpersonal	Ability to make friends		Positive partnering
	regulation	Low parental	alienation	Good peer relationships		between school and
	Aggressiveness	aspirations for child	Extreme poverty for			family
	Antisocial	Child abuse/	those children			School policies and
	behaviour	maltreatment	antisocial in			practices to reduce
	Early substance	Substance use among	childhood			bullying
	nse	parents or siblings or				High academic
		favourable attitudes				standards
		towards alcohol and/				
		or drugs				

applications that are quick and easy to administer and those that increase awareness of food intake and weight management [9]. Overweight is a risk factor for cardio-vascular diseases and diabetes during adolescence and adulthood and a key condition to monitor, prevent, and treat. It has been shown that healthy lifestyle is not only associated with physical benefits but also psychological health. Indeed, the importance of the role of exercise in the treatment of adolescent depression [10] is well demonstrated, and Web-based stimuli could provide regular and cost-effective positive reinforcement.

#### 16.2 Risky Situations

In the following paragraphs, we describe a number of possible Web-related at-risk situations, and we suggest potentially protective factors for an adolescent's mental health exploring the most well-known gender differences.

#### 16.2.1 Hyper-connection and Internet Addiction

According to the data of the main reason why adolescents use the Internet is for communicative or social motivations (94% of the young). Other frequent incentives to Internet use are recreational (music, movies, games) and education (material research, learning sites). Noticeably, the age of first contact with smartphones and the Web has considerably lowered over the years. This has many advantages including the increased ability of younger subjects to use technologies, but this can also lead to a continuous use of smartphones both in solitude and in social situations [11] which can lead up to technology addiction. According to a study made in 2006 about cell phone addiction, 22.1% of adolescents and 27.9% of young people can be considered cell phone addicts.

## 16.2.2 Web-Based Unhealthy Lifestyle Promotion (Pro-ana, Pro-drinking, Pro-suicide)

The shift of social life online has opened the doors to the "online trends" phenomenon. Among the most dangerous social modes, there are those related to eating disorders (pro-ana or pro-mia websites), addiction, self-harm, and even suicide. Such website promotes diet restriction, vomiting, and other disruptive behaviours including self-harm and alcohol or drug use as a way to achieve perfection and to increase the sense of mastery. In some "drinking games", the largest amount of alcohol should be consumed as quickly as possible as power demonstration. Harmless websites teach the smartest way of self-harming or committing suicide. The only powerful strategy against this phenomenon is spreading information and knowledge on healthy lifestyles, alcohol, and drug-related diseases. Second step is to provide health and psychological facilities together with tailored preventive programmes targeting adolescents.

#### 16.2.3 Cyberbullying

Cyberbullying, a term coined in 2005, is characterized by the use of technological information and communications to support intentionally repetitive and hostile behaviour of an individual or group of individuals who intend to harm someone. Different categories of cyberbullying have been identified so far: flaming (sending vulgar or aggressive messages), online harassment (sending offensive messages by repetitive email), cyberstalking (sending repetitive threats), masquerade (sending another person by damaging the reputation of the victim), and outing (disclosing confidential information about another person). The phenomenon of cyberbullying is particularly dangerous because the victim can be reached at any time and in any place and ignores the identity of cyberbully. Furthermore, differently from real life, the victim is unable to respond to violent actions so that the aggression of the perpetrator can be mitigated. Various studies identify cyberbullying as a gender-related phenomenon: the female sex would seem to be predominant in the role of victim of cyberbullying acts, while the genders seem to be equally represented among attackers [12, 13]. The ways in which victims are bullied often involve the social dimension rather than the physical dimension, for example, through exclusion: girls, who are also favoured in this sense by a more early verbal development than boys are, mainly act this kind of behaviour on. Cyberbullying has very often a psychopathological outcome for the victim, with both psychological and physical damages. Victims may tend to isolate themselves from their family and friends and not reveal what they are being tormented by shame: the psychophysical repercussions may reach the so-called bullycide. This term refers both to the suicide which the victim may be instigated because of unsustainable acts of prevarication and to the murder which has been carried out by the victim against the victimiser. As bullying usually originates in the school, analysing classroom social dynamics, fostering a group spirit, and speaking openly about the phenomenon are tools that should be used by teachers in this direction.

#### 16.2.4 Grooming

Grooming is an increasingly widespread problem involving children and adolescents who are contacted by paedophiles via social networks, chat rooms, and online games. This phenomenon involves mainly girls. According to the *National Adolescence Observatory*, about two out of ten adolescents have been contacted online by unknown adults at least once. This phenomenon is increasing over time: from 6% to 11% from 2000 to 2011. The identity of attenders of forums/blogs can be kept anonymous. Online you can hide your real identity and show yourself under other appearances and profiles that do not correspond to the truth and have interactions avoiding direct contact. The approval research also pushes a significant number of attenders to publish intimate photos: this behaviour can occur both in the messaging between two (the so-called sexting) and on social networks, making

those who carry out this type of practice easy prey to blackmail. Especially girls are often blackmailed in exchange for sexual practices. According to data from the National Adolescence Observatory, 4.5% of children would have published hard material from friends online without their consent.

#### 16.3 Conclusions

In our opinion, adolescents do have choices to reduce the risk of possible detrimental mental health consequences in adulthood. A set of resources is necessary to protect the "digital natives". Besides personal resources, a deep knowledge and proper education on new technologies is required. Beside school, a proper "digital education" has to comprise families, institutions, media and therapists.

Education has to build a strong critical sense and has to help the young in improving their "resilience". Resilience is defined as "the protective factors and processes that, despite experiences with situations shown to carry significant risks for developing psychopathology, contribute to good outcome" [14]. Being resilient is a personal resource that develops throughout life, reflecting the ability to cope with different life condition using protective resources [15, 16]. Empirical evidence indicates three resilience characteristics in a person's life, serving as a principle for the construction of resilience: personal characteristics and resources of the individual, a stable and supportive family environment, and social resources outside the family [14, 17]. Although findings are not consistent, females seem to report higher scores on social and interpersonal resources, whereas males rate themselves higher on personal dispositions [14].

Considering both physical and mental health, the "digital generation" faces new risks but also has new opportunities. For example, young people are often reluctant to seek professional help for their problems. Indeed, adolescents often underestimate the need for outside help and attempt to deal with their problems on their own. Programmes targeted at adolescents can also operate through new technology, for example, using the Internet. Some children and young people may prefer the Internet to "face to face" contact when having mental health or everyday problems. Web coaches in Sweden provide their help for young people on the Internet. Other programmes aim to provide adolescents with information and to help them solve their problems by getting online advices from counsellors and peers.

#### References

- Knudsen EI. Sensitive Periods in the development of the brain and behavior. Cogn Neurosci. 2004;16(8):1412–25.
- APA. Report of the task force on the sexualization of girls. Washington, DC: APA; 2007. https://www.apa.org/pi/women/programs/girls/report.aspx.
- 3. Thapar A, Collishaw S, Pine DS, Thapar AK. Depression in adolescence. Lancet. 2012;379(9820):1056–67. https://doi.org/10.1016/S0140-6736(11)60871-4.

- Kessler RC, Amminger GP, Aguilar-Gaxiola S, Alonso J, Lee S, Ustün TB. Age of onset of mental disorders: a review of recent literature. Curr Opin Psychiatry. 2007;20(4):359–64.
- Helsper EJ, Eynon R. Digital natives: where is the evidence? Br Educ Res J. 2010;36(3):503– 20. https://doi.org/10.1080/01411920902989227.
- 6. Kennedy G, Judd T, Dalgarno B, Waycott J. Beyond natives and immigrants: exploring types of net generation students. J Comput Assist Learn. 2010;26(5):332–43.
- 7. Cain MS, Leonard JA, Gabrieli JDE, Finn AS. Media multitasking in adolescence. Psychon Bull Rev. 2016;23:1932–41.
- Dute DJ, Bemelmans WJE, Breda J. Using mobile apps to promote a healthy lifestyle among adolescents and students: a review of the theoretical basis and lessons learned. JMIR Mhealth Uhealth. 2016;4(2):e39. https://doi.org/10.2196/mhealth.3559. PMID: 27150850.
- Coughlin SS, Whitehead M, Sheats JQ, Mastromonico J, Hardy D, Smith SA. Smartphone applications for promoting healthy diet and nutrition: a literature review. Jacobs J Food Nutr. 2015;2(3):021. PubMed PMID: 26819969; PubMed Central PMCID: PMC4725321.
- Avenevoli S, Swendsen J, He JP, Burstein M, Merikangas KR. Major depression in the national comorbidity survey-adolescent supplement: prevalence, correlates, and treatment. J Am Acad Child Adolesc Psychiatry. 2015;54(1):37–44.e2. https://doi.org/10.1016/j.jaac.2014.10.010. PMID: 25524788.
- 11. Aljomaa SS, Al Qudah MF, Albursan IS, Bakhiet SF, Abduljabbar AS. Smartphone addiction among university students in the light of some variables. Comput Hum Behav. 2016;61:155–64. https://doi.org/10.1016/j.chb.2016.03.041.
- Hinduja S, Patchin JW. Bullying, cyberbullying, and suicide. Arch Suicide Res. 2010;14(3):206–21. https://doi.org/10.1080/13811118.2010.494133.
- 13. Robin M, Kowalski RM, Limber SP, Agatston PW. Cyberbullying: bullying in the digital age. 2nd ed. London: Wiley-Blackwell; 2012. isbn:978-1-444-33481-4.
- 14. Friborg O, Hjemdal O, Rosenvinge JH, Martinussen M, Aslaksen PM, Flaten MA. Resilience as a moderator of pain and stress. J Psychosom Res. 2006;61(2):213–9.
- 15. Davydov D, Stewart R, Karen R, Isabelle C. Resilience and mental health. Clin Psychol Rev. 2010;30:479–95. https://doi.org/10.1016/j.cpr.2010.03.003.
- Zolkoski SM, Bullock LM. Resilience in children and youth: a review. Child Youth Serv Rev. 2012;34(12):2295–303.
- 17. Luthar SS, Sawyer JA, Brown PJ. Conceptual issues in studies of resilience: past, present, and future research (Conference Paper). Ann NY Acad Sci. 2006;1094:105–15.

### **Suggested Reading**

- Bor W, Dean AJ, Najman J, Hayatbakhsh R. Are child and adolescent mental health problems increasing in the 21st century? A systematic review. Aust N Z J Psychiatry. 2014;48(7):606–16. https://doi.org/10.1177/0004867414533834.
- Chadi N, Bagley SM, Hadland SE. Addressing adolescents' and young adults' substance use disorders. Med Clin North Am. 2018;102(4):603–20. https://doi.org/10.1016/j.mcna.2018.02.015. Review. PubMed PMID: 29933818.
- Crockett LJ, Silbereisen RK, editors. Negotiating adolescence in times of social change. Cambridge: Cambridge University Press; 2000.
- Lerner RM, Steinberg L, editors. Handbook of adolescent psychology: Individual bases of adolescent development. 3rd ed. Hoboken, NJ: John Wiley & Sons Inc.; 2009. https://doi. org/10.1002/9780470479193.
- Madigan S, Villani V, Azzopardi C, Laut D, Smith T, Temple JR, Browne D, Dimitropoulos G. The prevalence of unwanted online sexual exposure and solicitation among youth: a meta-analysis. J Adolesc Health. 2018; https://doi.org/10.1016/j.jadohealth.2018.03.012. pii:S1054-139X(18)30134-4. Review. PubMed PMID: 29921546.
- Santrock W. Adolescence. New York, NY: McGraw-Hill Higher Education; 2005.

Sowar K, Thurber D, Vanderploeg JJ, Haldane EC. Psychiatric community crisis services for youth. Child Adolesc Psychiatr Clin N Am. 2018;27(3):479–90. https://doi.org/10.1016/j. chc.2018.03.002. Review. PubMed PMID: 29933796.

- Tay JL, Tay YF, Klainin-Yobas P. Effectiveness of information and communication technologies interventions to increase mental health literacy: a systematic review. Early Interv Psychiatry. 2018; https://doi.org/10.1111/eip.12695. Review. PubMed PMID: 29897166.
- Vahedi Z, Sibalis A, Sutherland JE. Are media literacy interventions effective at changing attitudes and intentions towards risky health behaviors in adolescents? A meta-analytic review. J Adolesc. 2018;67:140–52. https://doi.org/10.1016/j.adolescence.2018.06.007. Review. PubMed PMID:29957493.
- Wozney L, McGrath PJ, Gehring ND, Bennett K, Huguet A, Hartling L, Dyson MP, Soleimani A, Newton AS. eMental Healthcare technologies for anxiety and depression in childhood and adolescence: systematic review of studies reporting implementation outcomes. JMIR Ment Health. 2018;5(2):e48. https://doi.org/10.2196/mental.9655. Review. PubMed PMID: 29945858; PubMed Central PMCID:PMC6039769.

#### List of Web Resources for Mental Health Promotion and Prevention

 $http://ec.europa.eu/health/ph\_determinants/life\_style/mental/mental\_health\_compass\_en.htm. \\ http://www.mentalhealthpromotion.net/?i=promenpol.en.$ 

http://www.friendsinfo.net/.

http://www.coolness-training.de/.

http://info.stakes.fi/aikalisa/EN.