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**ADOLESCENTS' ONLINE AND OFFLINE IDENTITY: A STUDY  
ON SELF-REPRESENTATION**

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***Abstract***

Adolescence represents a crucial period for the construction of personal and social identity. Nowadays, youths create their offline and online identity, as an undistinguishable and complex Self. Adolescents, indeed, construct their online identity as an integration of their physical and virtual persona. This integration might be difficult to represent and communicate to others. The Internet is widely spread among adolescents, and it can favour the development of risky online behaviours, which in turn can involve the occurrence of youth's negative consequences, such as emotional problems, or difficulties in social behaviours. The present study intends to explore, in a sample of Italian adolescents, the capacity of representing the online and offline identity. This capacity is hypothesized to result in an adaptive use of the web. The sample was composed by 200 Italian adolescents, aged 14-17 years, who filled out an ad-hoc questionnaire tapping different aspects of representation of virtual reality. Adolescents revealed an unclear representation of their virtual identity. Because of their difficulties in identifying the relationship between the real and the virtual identity, the consequences of their activities in the web and in virtual communities are frequently underestimated. Identity and representation of the Self that adolescents express through social networks are very complex topics and the relationship between real and virtual identity needs further research, to carry out effective programs of prevention and intervention of problematic internet use in adolescence.

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**Keywords:** Adolescence, online behaviours, virtual identity.



## **1. Introduction**

### **1.1. Adolescents' identity: function and facets**

Adolescence is a crucial developmental stage representing a critical period for the formation of identity and lifestyle-related patterns. Adolescents, indeed, experience physical, mental, and social interactional modifications during this period (Aghamolaei & Tavafian, 2013; Aubi, et al., 2012; Ernst, Pine & Hardin, 2006). Moreover, relatively immature cognitive skills due to the incomplete maturation of prefrontal cortex, make them particularly vulnerable to affective disorders and addiction problems (Galvan et al., 2006; Steinberg, 2005).

It is widely known that identity represents a key variable in adolescents' development (Erickson, 1969; Marcia, 1966). Erikson (1969) first pointed out the formation of a coherent sense of identity as a key developmental task in adolescence. Rooting on this pioneering theory, identity formation has been hypothesized to involve complex dynamics and changes across the entire period of adolescence (Meeus, 2011; Paciello, Fida, Cerniglia, Tramontano, & Collie, 2012; Waterman, 1999). Studies and research in this area have often been characterized by a debate on whether identity formation is shaped along change or by stability (Van Hoof 1999). Moreover, the patterns of adolescents' identity development have been studied in several longitudinal studies, which have shown that personal identity develops progressively during adolescence (Crocetti, Rubini, & Meeus, 2008; Kroger, 2007; Reinecke, 2006). Other studies focused on the relation between identity and personality, and on the link between identity and psychological well-being (Lichtwarck-Aschoff, van Geert, Bosma, & Kunnen, 2008; Meeus, Iedema, Maassen, & Engels, 2005; Roberts, Caspi, & Moffitt, 2001).

### **1.2. Adolescents and information and communication technologies (ICTs)**

It is worth noting that, the fragile process of identity formation, together with the set of psychobiological and relational changes characterizing adolescence, may imply the onset of risk and problem behaviours (Eaton et al., 2012). Indeed, The Internet and other information and communication technologies (ICTs; such smartphones for instance) are widely spread among adolescents, and they seem to cover emotional and communication adolescents' needs (Dolev-Cohen & Barak, 2013; Valkenburg & Peter, 2011). On the other hand, ICTs can also favour the development of risky online behaviours during adolescence, which in turn can involve the occurrence of youth's negative consequences, such as emotional problems, or difficulties in social behaviours (Valcke, De Wever, Van Keer, & Schellens, 2011).

Adolescents' drive to express and share with peers their identity (intended as psychological, behavioural and physical characteristics) has been defined as the main motivation behind youths' behaviour (Erickson, 1969). Since the internet can be considered as a very powerful means of expression of the self, many adolescents nowadays reveal personal information, such as age, gender, orientations (Subrahmanyam, Smahel, & Greenfield, 2006). However, the process of identity formation can be unstable and tumultuous and adolescents can shift from one web-based identity to another very rapidly and unpredictably. In this regard, researchers demonstrated that the use of the Internet for socializing with

peers is quickly increasing (Lenhart, Madden, Macgill, & Smith, 2007; Madden, Smith, & Vitak, 2007), with youths aged between 12 to 20 years presenting themselves as members of the opposite sex on the Internet on some social networks (Smahel, 2005).

## **2. Problem Statement**

### **2.1. Adolescents on line identity and major risky online behaviours**

As pointed out by Pisano and Cadau, the notion of virtual identity refers to a complex system of images, videos and written information posted by Internet user in social networks with the intent of representing themselves as unique and unmistakable digital subjects (Pisano & Cadau, 2013).

As noted above, personal digital devices and the Internet are increasingly popular among adolescents, who use various communication technologies and informatics tools, such as MySpace, Facebook, Twitter for many leisure-time activities (Pujazon-Zazik & Park, 2010). The Internet is worldwide popular among adolescents, from the Western societies (Macur, Király, Maraz, Nagygyörgy, & Demetrovics, 2016; Tam & Walter, 2013; Van Rooij & Van den Eijnden, 2007) to Eastern countries (Cao, Sun, Wan, Hao, & Tao, 2011), and it is an even more favourite everyday activity than watching TV. As regards to gender differences in adolescent online activities, females seem to prefer using instant messaging, posting pictures and cultivating their online profile, while males seem to more frequently posting videos (Kowalski & Limber, 2007).

Despite the fact that for many young people the Internet has become an almost indispensable tool for social interaction, entertainment, moving into homes, schools and workplaces, it can also imply potential adverse effects, such as Internet addiction and pathological Internet use (Nemati, & Matlabi, 2017). In fact, a growing body of research has focused on this public issue (Cerniglia et al., 2016).

Several studies focused on specific populations. For example, online gaming resulted to be highly prevalent among Lithuanian adolescents' health (Festl, Scharkow, & Quandt, 2013; Ustinavičienė, 2016). Similarly, Problematic Internet use (PIU), defined as use of the Internet that leads to psychological and social difficulties (Beard & Wolf, 2001) is a growing problem in Chinese adolescents (Cao et al., 2011). In Europe the prevalence has been reported to be between 1% and 9% (Siomos, Dafouli, Braimiotis & Mouzas, 2008; Zboralski et al., 2009) while in Asia it has been reported to be between 2% and 18% (Park, Kim & Cho, 2008).

The increased possibility of non-domestic Internet connections constitute a serious concern in adolescents' parents, who worry about possible health consequences from an excessive Internet use they cannot control (Subrahmanyam et al., 2006; Wang, Bianchi, & Raley, 2005).

Given that parental monitoring is a key protective variable against adolescent risky behaviours and maladaptive outcomes (Cimino, Cerniglia, & Paciello, 2014; Tambelli, Cerniglia, Cimino, & Ballarotto, 2015) it is sensible to hypothesize that adolescents' Internet use may put them at significant risk, if not kept under observation (Muñoz-Miralles et al., 2016). In this regard, unfortunately, a growing body of literature supports the opinion that as well as the problematic Internet use, youth are also exposed to

cyberbullying perpetration, and meeting strangers online or sexual predators, unwanted exposure to pornography (Malesky, 2007; Mitchell, Ybarra, & Finkelhor, 2007).

During the last decades, an increasing attention has been paid to the potential impact of online social activities on psychological well-being and a broadening body of studies has focused on multiple factors associated with people's mental health outcomes.

At present, most research on adults and young people's virtual identity has highlighted that the information posted by web surfers in the social networks, such as, photo, video, texts or comments are related to individual traits of personality (Hughes, Rowe, Batey, & Lee, 2012; Marshall, Lefringhausen, & Ferenczi, 2015; Seidman, 2013; Stoughton, Thompson, & Meade, 2013). Consequently, not all online activities should be considered "causal" or "accidental" activities, since they can represent symbols or symptoms connected to the real identity. Moreover, several researchers have demonstrated the effect of narcissism on behaviours exhibited in the virtual world (Andreassen, Pallesen, & Griffiths, 2016; Lee & Sung, 2016). In addition, a positive correlation between poor mental health and frequent use of social networks during developmental age has been evidenced (Sampasa-Kanyinga & Lewis, 2015). Other works have shown a significant interaction between adolescents' well-being, social self-esteem and the use of social networks (Valkenburg, Peter, & Schouten, 2006) as well as a significant correlation between negative emotions and status exhibited on Facebook (Liu, Toy, Kosinski, Stillwell, & Qiu, 2015). Still, Baker & Algorta (2016) founded a non-significant relation between depressive symptoms and use of social networks.

In this complex scenario, it has become clear that adolescents deserve special consideration for the study of their process of constructing offline and online identity as an undistinguishable and complex Self.

### **3. Research Questions**

While the above studies have explored the points of contact and divergence between the real and the virtual identity, to our knowledge less attention has been devoted to adolescents' Self-representation, that is the ability to ponder up on the representations of the Self manifested in the virtual world. Although the interdependence between "real identity" and "virtual identity" has been widely demonstrated, many young people appear capable of describing their actions in the virtual world (chatting, posting, sharing materials) but they are lacking the ability to understand that online behaviour is a projection of their real identity (self-consciousness). If they had this capacity, adolescents would be able to navigate responsibly and safely.

Overall, the absence of studies on the formation and evolution of adolescents' self-representation in the virtual world, does not favour the development of research programs aimed at understanding how the representations of the self, which is also connected with the quality of the experiences in the digital world, may lead to original and coherent virtual identity.

## **4. Purpose of the Study**

Based on the aforementioned literature, our study was developed to shed light on adolescents' Self-representation in the virtual world. More specifically, taking into account previous literature, the current study sought to provide a comprehensive view on adolescents' online and offline identity, by examining various aspects of representation of virtual reality. This study only focuses on the use of the Internet for communicating. It intends to explore, in a sample of adolescents in the general population, the capacity of representing their online and offline identity. This capacity is hypothesized to result in an adaptive use of the web.

We hypothesized that a higher understanding of the relationship of interdependence between the information adolescents publish online (virtual identity) and their personality traits (real identity) is associated with a higher capacity to protect themselves during the networking activities.

## **5. Research Methods**

A cross-sectional design was applied for the purposes of the study.

### **5.1. Subject and procedure**

We conducted a semi-qualitative study on adolescents' Self-representation, assessing a sample of  $N = 200$  subjects, 110 males and 90 females, ranged in age from 13 to 19 years. The research subjects were recruited in schools of Central Italy, in the period between April and June 2015. All participants voluntarily took part in the study and did not receive reward. They were administered an ad-hoc questionnaire tapping different aspects of representation of virtual reality (psychological, relational and social characteristics). The following socio-demographic characteristics were obtained: age, gender, residential background (urban or rural areas), area and self-reported family economy.

Students who took part in this research were 51% male, aged 13 to 19 years. Ninety-nine percent of participants were Caucasian. More than half (59.5%) of the students came from urban areas. Most students (66.0%) reported average family socio-economical status. All participants completed the protocol without any attrition.

The questionnaire was distributed to all study participants in class during school time.

Each of the subjects, after their parents' written authorizations, received the questionnaire in a closed envelope and a letter with a brief description of the study. The teachers were not present during the assessment, in order to minimize any potential information bias. The time required to complete the questionnaire was 30–40 minutes. Data collection was carried out by research assistants. Before the start of the study, permission was obtained from the Ethical Committee of the Medicine and Psychology Faculty at Sapienza, University of Rome, in accordance with the Declaration of Helsinki.

### **5.2. Measures**

Assessing adolescent's Self-representation

We created an ad hoc a self-administered questionnaire containing information on socio-demographic indicators and Internet use. The questionnaire is a 41 item self-report scale, assessing

different aspects of virtual identity. It is composed of four sections. Respondents were asked to indicate the frequency of the various behaviours and activities expressed in each statement, on a 5-point Likert scale, from 1 = never, to 5 = always. The section Intra- and inter-system consistency assesses the ability to post various contents (photos, videos, comments) in the same or different social networks and is composed of 8 items; the section Protection, assessing the capacity to protect one's virtual identity, includes 17 items. The section Sense of the virtual Self assesses the awareness of being able to act, to decide, to feel emotions and to remember what has been accomplished and experienced online; it is composed of 8 items. Finally, the section Categorization of virtual identity aims to assess the ability to understand that the contents published in a social network, such as photos, video, images, text or comments, can be related to the real identity; it includes 8 items.

High scores to questions belonging to the section Sense of the virtual Self, together with low scores on the section Categorization of virtual identity may be indicative of an adolescents' unclear representation of their virtual identity.

### **5.3. Statistical analysis**

The quantitative data were analysed using the simple statistical indices such as Student's t-test,  $\chi^2$ . Data were analysed using SPSS software, version 22.00.

## **6. Findings**

Overall, our findings revealed an unclear representation of their virtual identity in adolescents study participants.

The research showed that the majority of the surveyed adolescents, aged between thirteen and nineteen years, were frequently not able to conceptualize their virtual identity, being incapable of grasping and defining the interdependence between their real and virtual identities. The posts, chats, photos and videos are only "rarely or sometimes" considered manifestations of the real identity.

Adolescents, on the other hand, seem to have an awareness of their "being online", showing to be aware of actions and emotions they experience during their online social life.

However, adolescents' virtual identity results poorly integrated, since youths do not consider the posts, videos and photos they share online as symbols of their persona.

Regarding the section Intra- and inter-system consistency, adolescents seem not consistent in their networking activities. For instance, only 10% of respondents refer to often or always publishing the same content in Facebook as in other social networks. Similarly, only the 25% of respondents consider "often or always" the content of their last posting before posting a new message, whereas about 30% of subjects "often or always" try to make others understand their values, in order to bring out a distinctive feature of their identity.

Regarding the section "Protection", the adolescents' ability to protect themselves appears insufficiently articulated. Indeed, about 30% of subjects reported being involved in cyberbullying, whereas half of the subjects often use foul language in their public comments. Moreover, analyses of the characteristics of adolescents engaged in online activities revealed that while more than half participants

reported “often or always” thinking about reputation before publishing to Facebook, far fewer subjects think “often or always” before posting in other social networks (30%). Therefore, in general, many young people think they can post or publish contents online without particular consequences for their reputation online. Finally, our data identified that at least one student out of ten performs activities that may seriously affect their reputation. Ten students reported that they “often” posted photos or videos in which is possible to see the body. Overall, 11% of the students practice a form of sexting.

With regards to the section of Sense of the Virtual Self, the majority of adolescents tends to have a good awareness of their actions and emotions. They also remember what they have experimented online. For instance, more than 80% of participants evaluate the possible offensive content of their post and communications. Many of them, similarly, are able to understand if someone could feel bad because of their posts.

Finally, with respect to section Categorization of virtual identity, students fail to represent their virtual identity. Indeed, despite about the 70% of respondents believe that the personality shown in everyday life has something in common with the identity they show online, only for 25% of them published posts, pictures and videos may express something of their personality or way of being. Thus, for almost the entire sample, posts, photos and videos do give access to their real personality. More in particular, not being able to conceptualize that the posts, chats, videos and photos are the phenomenological dimension through which their identity manifests online, students felt that these online posting do not reflect something of their values and their character.

## **7. Conclusion**

Starting from previous literature on adolescents’ online social activities, the present study aimed to explore the Internet use and the self-representation characteristics among adolescents. More specifically, the current study intended to investigate the capacity of pondering on the self-representations in the virtual world in a sample of  $N = 200$  Italian adolescents.

Data emerged from our study confirmed the results of previous studies, according to which adults and minors do not have a clear representation of their virtual identity, nor of the interdependence between online and offline identity. Moreover, our results have shown that adolescents of our sample frequently underestimate the consequences of their activities in the web and in virtual communities, probably because of their difficulties in identifying the relationship between the real and the virtual identity,

Our findings are consistent with recent observations by Fullwood, James and Chen-Wilson (2016), who highlighted that adolescents who have a poorly integrated identity and self-representation are more prone to manifest an idealized version of themselves in the Internet, while youths with a more stable (and therefore more self-aware) self-representation have a more coherent and unitary self-representation.

Our research subjects seem to be aware of their behaviours and emotions during their online social activities, showing what we could call Sense of virtual self, paraphrasing Stern (1987). On the other hand, adolescents involved in on line activities are not always able to reflect on the relationship between real identity and virtual identity on the web. In this sense, we could compare the digital natives, who have come in recent years to the virtual world, to new-born babies who, through their relationship with significant adults, gradually build their Self, through consistent and recurring interactive patterns,.

Identity and representation of the Self that adolescents express through social networks are very complex topics and the relationship between real and virtual identity needs further research, to carry out effective programs of prevention and intervention of problematic internet use in adolescence and maladaptive behaviour in general (Erriu, 2016; Morioka et al., 2017).

Health care professionals should try to better understand adolescent online activities, as youth need guidance on safe Internet use. Given the dangers associated with risk online behaviour, clinicians and professionals should deeply discuss problematic Internet use with adolescent patients and their parents.

A number of limitations of this study warrant discussion. The main limitation involves the use of a self-report, not widely validated questionnaire. Although questionnaires are the most appropriate instruments by which to gather information on subjective processes, such as identity, the biases involved in self-reports may be taken into account. Thus, caution is recommended before generalizing the results of the present study. Nonetheless, our results offer an interesting interpretation to frame the issue of adolescents' virtual identity. Firm conclusions about our research question cannot be made. Moreover, our results also require further testing in a wider cultural context.

## References

- Aghamolaei, T. & Tavafian, S. S. (2013). Health behaviours of a sample of adolescents in Bandar Abbas, Iran. *International Journal of High Risk Behaviors and Addiction*, 2(1), 34–38.
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2016). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, 64, 287-293. doi: 10.1016/j.addbeh.2016.03.006.
- Aubi, E., Shadnoush, M., Nazarzadeh, M., Bidel, Z., Ranaei, A., & Delpisheh, A. (2012). Translation and assessment of validity and reliability of the health-promoting lifestyle questionnaire, using factor analysis. *Pajoohandeh Journal*, 17(3), 114-120.
- Baker, D. A., & Algorta, G. P. (2016). The relationship between online social networking and depression: a systematic review of quantitative studies. *Cyberpsychology, Behavior, and Social Networking*, 19(11), 638-648.
- Beard, K. W. & Wolf E. M. (2001). Modification in the proposed diagnostic criteria for Internet addiction. *Cyberpsychology & Behavior*, 4, 377-383.
- Cao, H., Sun, Y., Wan, Y., Hao, J., & Tao, F. (2011). Problematic Internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction. *BMC public health*, 11(1), 802.
- Cerniglia, L., Zoratto, F., Cimino, S., Laviola, G., Ammaniti, M., & Adriani, W. (2016). Internet Addiction in adolescence: Neurobiological, psychosocial and clinical issues. *Neuroscience & Biobehavioral Reviews*.
- Cimino, S., Cerniglia, L., & Paciello, M. (2014). Mothers with depression, anxiety or eating disorders and longitudinal outcomes on their children: a study on paternal psychopathological risk. *Child Psychiatry and Human Development*, 46, 228-236. doi: 10.1007/s10578-014-0462-6.
- Crocetti, E., Rubini, M., & Meeus, W. (2008). Capturing the dynamics of identity formation in various ethnic groups: Development and validation of a three-dimensional model. *Journal of Adolescence*, 31, 207–222.
- Dolev-Cohen, M., & Barak, A. (2013). Adolescents' use of Instant Messaging as a means of emotional relief. *Computers in Human Behavior*, 29, 58 –63. doi: 10.1016/j.chb.2012.07.016
- Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Flint, K. H., Hawkins, J., ... & Whittle, L. (2012). Youth risk behavior surveillance-United States, 2011. *Morbidity and mortality weekly report. Surveillance summaries (Washington, DC: 2002)*, 61(4), 1-162.
- Erikson, E. H. (1969). *Identity: Youth and crisis*. WW Norton & Company.
- Ernst, M., Pine, D.S, & Hardin, M. (2006). Triadic model of the neurobiology of motivated behavior in adolescence. *Psychological Medicine*, 36, 299-312.

- Erriu, M. (2016). Emotional–Behavioural Profiles and Parental Support in Adolescents with Motor Vehicle Accidents. *The European Proceedings of Social & Behavioural Sciences EpSBS, 13*, 303-312. doi: 10.15405/epsbs.2016.07.02.30.
- Festl, R., Scharnow, M., & Quandt, T. (2013). Problematic computer game use among adolescents, younger and older adults. *Addiction, 108*(3), 592-599.
- Fullwood, C., James, B. M., & Chen-Wilson, C. H. (2016). Self-Concept Clarity and Online Self-Presentation in Adolescents. *Cyberpsychology, Behavior, and Social Networking, 19*(12), 716-720.
- Galvan, A., Hare, T. A., Parra, C. E., Penn, J., Voss, H., Glover, G., & Casey, B. J. (2006). Earlier development of the accumbens relative to orbitofrontal cortex might underlie risk-taking behavior in adolescents. *Journal of Neuroscience, 26*(25), 6885-6892.
- Hughes, D. J., Rowe, M., Batey, M., & Lee, A. (2012). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior, 28*(2), 561-569.
- Kowalski, R. M., & Limber, S. P. (2007). Electronic bullying among middle school students. *Journal of adolescent health, 41*(6), S22-S30.
- Kroger, J. (2007). The status of identity: Developmental perspectives. In *annual meeting of the Society for Research on Identity Formation, Washington, DC*.
- Lee, J. A., & Sung, Y. (2016). Hide-and-seek: narcissism and “Selfie”-related behavior. *Cyberpsychology, Behavior, and Social Networking, 19*(5), 347-351.
- Lenhar, A., Madden, M., Smith, A., & Macgill, A. (2007). Teens and social media: the use of social media gains a greater foothold in teen life as they embrace the conversational nature of interactive online media. *Washington, DC: Pew Internet and American Life Project*.
- Lichtwarck-Aschoff, A., van Geert, P. L. C., Bosma, H. A., & Kunnen, E. S. (2008). Time and identity: A framework for research and theory formation. *Developmental Review, 28*, 370– 400. doi:10.1016/j.dr.2008.04.001.
- Liu, P., Tov, W., Kosinski, M., Stillwell, D. J., & Qiu, L. (2015). Do Facebook Status Updates Reflect Subjective Well-Being?. *Cyberpsychology, Behavior, and Social Networking, 18*(7), 373-379.
- Macur, M., Király, O., Maraz, A., Nagygyörgy, K., & Demetrovics, Z. (2016). Prevalence of problematic internet use in Slovenia. *Slovenian Journal of Public Health, 55*(3), 202-211.
- Madden, M., Smith, A., & Vitak, J. (2007). Digital Footprints: Online identity management and search in the age of transparency.
- Malesky Jr, L. A. (2007). Predatory online behavior: Modus operandi of convicted sex offenders in identifying potential victims and contacting minors over the Internet. *Journal of child sexual abuse, 16*(2), 23-32.
- Marcia, J. E. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology, 3*, 551–558.
- Marshall, T. C., Lefringhausen, K., & Ferenczi, N. (2015). The Big Five, self-esteem, and narcissism as predictors of the topics people write about in Facebook status updates. *Personality and Individual Differences, 85*, 35-40.
- Meeus, W. (2011). The study of adolescent identity formation 2000–2010: A review of longitudinal research. *Journal of research on adolescence, 21*(1), 75-94.
- Meeus, W. H. J., Iedema, J., Maassen, G., & Engels, R. (2005). Separation-individuation revisited: On the interplay of parentadolescent relations, identity and emotional adjustment in adolescence. *Journal of Adolescence, 28*, 89–106. doi:10.1016/j.adolescence.2004.07.003.
- Mitchell, K. J., Ybarra, M., & Finkelhor, D. (2007). The relative importance of online victimization in understanding depression, delinquency, and substance use. *Child maltreatment, 12*(4), 314-324.
- Morioka, H., Itani, O., Osaki, Y., Higuchi, S., Jike, M., Kaneita, Y., ... & Ohida, T. (2017). The association between alcohol use and problematic internet use: A large-scale nationwide cross-sectional study of adolescents in Japan. *Journal of Epidemiology, 27*(3), 107-111.
- Muñoz-Miralles, R., Ortega-González, R., López-Morón, M. R., Batalla-Martínez, C., Manresa, J. M., Montellà-Jordana, N., ... & Torán-Monserrat, P. (2016). The problematic use of Information and Communication Technologies (ICT) in adolescents by the cross sectional JOITIC study. *BMC pediatrics, 16*(1), 140.

- Nemati, Z., & Matlabi, H. (2017). Assessing behavioral patterns of Internet addiction and drug abuse among high school students. *Psychology Research and Behavior Management*, 10, 39.
- Paciello, M., Fida, R., Cerniglia, L., Tramontano, C., & Collie, E. (2012). High cost helping scenario: the role of empathy, prosocial reasoning and moral disengagement on helping behavior. *Personality and Individual Differences*, 55(1), 3–7.
- Park, S. K., Kim, J. Y., & Cho, C. B. (2008). Prevalence of Internet addiction and correlations with family factors among South Korean adolescents. *Adolescence*, 43, 895-909.
- Pisano, L., & Cadau, V. (2013). L'identità virtuale: teoria e tecnica della ricerca sociale on line. In Iris Socialia - Centro Studi SUNAS, *Dalla ricerca sociale all'innovazione nell'intervento sociale*.
- Pujazon-Zazik, M., & Park, M. J. (2010). To tweet, or not to tweet: gender differences and potential positive and negative health outcomes of adolescents' social internet use. *American journal of men's health*, 4(1), 77-85.
- Reinecke, J. (2006). Longitudinal analysis of adolescent's deviant and delinquent behavior. *Methodology*, 2, 100– 112.
- Roberts, B. W., Caspi, A., & Moffitt, T. E. (2001). The kids are alright: Growth and stability in personality development from adolescence to adulthood. *Journal of Personality and Social Psychology*, 81, 670–683. doi:10.1037/0022-3514.81.4.670.
- Sampasa-Kanyinga, H., & Lewis, R. F. (2015). Frequent use of social networking sites is associated with poor psychological functioning among children and adolescents. *Cyberpsychology, Behavior, and Social Networking*, 18(7), 380-385.
- Seidman G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences*, 54, 402–407.
- Siomos, K. E., Dafouli, E. D., Braimiotis, D. A., Mouzas, O. D., & Angelopoulos, N. V. (2008). Internet addiction among Greek adolescent students. *CyberPsychology & Behavior*, 11(6), 653-657.
- Smahel, D. (2005). Vztahy adolescentu ve virtualnim prostredi v kontextu teorie statusu identity dle Marcii [The relationships of adolescents in the cyberspace in the context of Marcia's theory of identity]. In P. Macek & J. Dalajka (Eds.), *Vyvoj utvareni osobnosti v socialnich a etnickych kontextech* (pp. 306-318). Brno, Czech Republic: FSS MU.
- Steinberg, L. (2005). Cognitive and affective development in adolescence. *Trends in cognitive sciences*, 9(2), 69-74.
- Stern D. (1987). *Il mondo interpersonale del bambino*. Bollati Boringhieri, Torino
- Stoughton JW., Thompson L. F., Meade, A. W. (2013). Big Five personality traits reflected in job applicants' social media postings. *Cyberpsychology, Behavior, and Social Networking*, 16, 800–805.
- Subrahmanyam, K., Smahel, D., & Greenfield, P. (2006). Connecting developmental constructions to the Internet: Identity presentation and sexual exploration in online teen chat rooms. *Developmental Psychology*, 42, 395-406.
- Tam, P., & Walter, G. (2013). Problematic internet use in childhood and youth: evolution of a 21st century affliction. *Australasian Psychiatry*, doi: 1039856213509911.
- Tambelli R., Cerniglia L., Cimino S., Ballarotto G. (2015), Parent-infant interactions in families with women diagnosed with postnatal depression: a longitudinal study on the effects of a psychodynamic treatment. *Frontiers in Psychology*, 6, 1210 ISSN: 1664-1078. doi: 10.3389/fpsyg.2015.01210.
- Ustinavičienė, R., Škėmienė, L., Lukšienė, D., Radišauskas, R., Kalinienė, G., & Vasilavičius, P. (2016). Problematic computer game use as expression of Internet addiction and its association with self-rated health in the Lithuanian adolescent population. *Medicina*, 52(3), 199-204.
- Valcke, M., De Wever, B., Van Keer, H., & Schellens, T. (2011). Long-term study of safe Internet use of young children. *Computers & Education*, 57, 1292–1305. doi: 10.1016/j.compedu.2011.01.010
- Valkenburg, P. M., & Peter, J. (2011). Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. *Journal of Adolescent Health*, 48, 121–127. doi: 10.1016/j.jadohealth.2010.08.020
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior*, 9(5), 584-590.

- Van Rooij, A. J., & Van den Eijnden, R. J. J. M. (2007). Monitor Internet en Jongeren 2006 en 2007. *Ontwikkelingen in internetgebruik en de rol van opvoeding [Monitor Internet And Youth 2006 and 2007. Developments in Internet Use and the Role of Parenting]*. Rotterdam, The Netherlands: IVO.
- Van Hoof, A. (1999). The identity status field re-reviewed: An update of unresolved and neglected issues with a view on some alternative approaches. *Developmental Review*, 19, 497–556.
- Wang, R. Bianchi, S., & Raley, S. (2005). Teenagers' Internet Use and Family Rules: A Research Note. 686 *Journal of Marriage and Family*, 67, 1249 – 1258.
- Waterman, A. S. (1999). Identity, the identity statuses, and identity status development: A contemporary statement. *Developmental Review*, 19, 591–621. doi:10.1006/drev.1999.0493.
- Zboralski, K., Orzechowska, A., Talarowska, M., Darmosz, A., Janiak, A., Janiak, M., ... & Gałęcki, P. (2009). The prevalence of computer and Internet addiction among pupils Rozpowszechnienie uzależnienia od komputera i Internetu. *Postepy Hig Med Dosw.(online)*, 63, 8-12.