Alma Mater Studiorum – Università di Bologna

DOTTORATO DI RICERCA IN

Scienze Psicologiche

Ciclo XXX

Settore Concorsuale: 11/E2

Settore Scientifico Disciplinare: MPSI-04

Online and Offline Life: A New Framework to Understand Problematic Internet Use and Functional Internet Use

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Esame finale anno 2018

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INTRODUCTION

The Internet is an important part of our daily lives and it represents a basic tool for finding information, social interactions, and the consequent construction of knowledge (Frozzi & Mazzoni, 2011; Mazzoni & Zanazzi, 2014). The evolution of the Internet has been accompanied by a profound change in the type of devices used to log on: tablets, laptops, smartphones. Far from serving as a mere means of communication, the Internet has profoundly changed our daily lives. The Internet phenomenon concerns a wide spectrum of knowledge boundaries: it is undoubtedly an important engineering issue, it brought about a revolution in terms of economics and finance, it deeply affects marketing techniques and it has sociological and anthropological implications as it changes human behavior. Considering these aspects, it becomes advisable to ask, 'what does the Internet have to do with psychology'? The previous Web and the current Web 2.0 and its ubiquity due to the above-mentioned new devices have changed people's behavior. Nowadays, the benefits that one can gain from the Internet in performing daily activities are enormous; never before have we had such easy and rapid access to information and communication. However, there is a downside. Web 2.0 requires a lot of our attention during use (due to the network of relations and information processing in which we are absorbed) and it often distracts us from tasks we are involved in during our daily activities such as studying, working or cultivating offline relationships. The integration between being online and offline is an important part of the psychology of human beings (Turkle, 2012). In some cases, it is possible to find a balance between these two aspects of human life. The Web can be functional for work, studying and for carrying out daily activities. In other cases, people run the risk of pursuing types of behavior that lead to problematic use (Davis, 2001).

Considering the previously mentioned aspects of Internet use, the theoretical perspective of this research assumes that the Internet is neither good nor bad, but that it can become either a problematic device or a functional tool depending on how it is used and the reasons behind such use, like any other cultural artifact created by humans (Mazzoni, Baiocco, Cannata & Dimas, 2016; Mazzoni, Cannata & Baiocco,

2017). This research relies on a theoretical framework which allows the researchers to consider both negative and positive outcomes of the Web 2.0 simultaneously. Ekbia and Nardi (2012) explained that Web technologies could enable situations of inverse instrumentality, a process of the objectification of users which regulates their behavior in a predictable manner, drawing them in or pushing them away from their activities. On the other hand, Leontev (Leontev, 1974; Kaptelinin & Nardi, 2006) proposed the construct of a functional organ to describe how a tool (e.g. the Internet) allows people to achieve better and more powerful performances which would not be attainable individually without that tool (e.g. sharing photos or documents with several people in different parts of the world at the same time). Therefore, the goal of this research is to explain which processes and conditions make it possible for a massive and pervasive use of the Web to become a source of problematic use (inverse instrumentality) or a source of empowerment (functional organ) throughout a person's lifecycle, specifically in the phases of adolescence, emerging adulthood (early and late) and adulthood.

PROBLEMATIC AND FUNCTIONAL INTERNET USE:

THE POINT ON THE LITERATURE'S DEBATE

In the last few decades, the increased availability and increasingly rapid and constant technological developments have led to significant changes in people's way of life in many countries (Ngai, Tao, & Moon, 2015). Web 2.0 has revolutionized the traditional ways of communicating, of interacting as well as the flow of information between people and organizations, allowing easy access to an unprecedented amount of data and enabling the spread of news in real time, offering interactive virtual spaces where millions of people are quickly reachable (Kaplan & Haenlein, 2010). The immediacy and the convenience of communication on the Web have forever changed the history of human communication. Millions of people have chosen to interact by means of virtual platforms, such as blogs, social networks, chat, and e-mail rather than interacting face to face, which generally requires more time and the physical displacement of the people involved (Lee, 2014). Thanks to the rapid diffusion of Information and Communication Technologies (ICT), the Internet has rapidly evolved into a tool for ordinary use which has permitted the development of new applications which facilitate and enable not only communication but also many and varied activities (Khang, Kim, & Kim, 2013; Odaci & Çıkrıkçı, 2014). The use of the Internet and of Social Network Sites (SNSs) greatly facilitates the spread of multimedia audio and video (pictures, movies, music) and the availability of communications technologies also increases the possibility of having access to information and knowledge across countries and between different cultures. However, some studies have found controversial relationships between the use of digital media and people's well-being. The well-being has been indicated as a predictor of poor outcomes when compared to how intensely a person use digital media (see Weigle, 2014; Lee & Leeson, 2015; Caplan, Williams, & Yee, 2009). Consequently, the debate which has arisen in recent years between many scholars regarding the use of the Internet has become increasingly heated, and it can be broadly characterized by two different perspectives: some scholars have highlighted the possible problematic effects of the

Internet on people's activities, while others have studied it as functional tool for humans (i.e. a tool which empowers people in their abilities and competencies to achieve specific objectives).

The possibility of being continuously connected dramatically increases the amount of the time spent online, and the Internet has become a notably pervading part of our lives. Scholars have wondered how our online life shapes our offline life, mostly by attempting to answer the question: "*is Internet usage good or bad for us?*". Findings have been inconsistent and go in two opposite directions. Many studies have been carried out in the field of Internet Addiction. This means the Internet as seen as a dangerous tool capable of reducing users' resources rather than boosting them. On the other hand, other researchers have found evidence of the empowering nature of the Internet. This dualism needs to be overcome, and integration and greater detail are required in order to create more evolved theoretical models capable of explaining both the negative and positive aspects of using the Internet. For these reasons, the present study goes beyond this dualism and tries to answer the question: "*when, how and under which conditions is Internet usage either problematic or functional for people?*". Whether we like it or not, nowadays the Internet is a main character in our lives. Investigating its effects on people and the way people's characteristics affect their usage of it is necessary in order to develop systems and procedures aimed at taking advantage of the Internet as a resource and reducing the risks that it potentially entails.

CHAPTER 1

PROBLEMATIC INTERNET USE

1. WHEN THE INTERNET IS A PROBLEMATIC TOOL

The inexistence of a standard term to define Problematic Internet Use is currently a big issue for the study of this phenomenon. Considering the multiplicity of conceptual definitions and measurement instruments, it is questionable if they all address the same underlying construct (Tokunaga, 2015). Therefore, clarifying this definition is a fundamental step.

The concept of Problematic Internet Use (PIU) was defined for the first time by Shapira and colleagues (2000) as a clinically important syndrome associated with distress, functional impairment and psychiatric disorder. This conceptualization derives from previous studies in literature which associated PIU with 'Internet addiction', based on the DSM-IV definition for substance dependence and pathological gambling, respectively (see Beard & Wolf, 2001; Griffiths, 1996, 1997, 1998; O'Reilly, 1996; Pratarelli et al., 1999; Shaffer, Hall, & Vander Bilt, 2000; Shotton, 1991; Surratt, 1999; Stein, 1997; Young, 1996, 1998; Young and Rogers, 1998). Internet addiction entails a ''*psychological dependence on the Internet, and is characterized by (1) an increasing investment of resources on Internet-related activities, (2) unpleasant feelings (e.g. anxiety, depression, emptiness) when offline, (3) an increasing tolerance to the effects of being online, and (4) denial of the problematic behaviors*" (Kandell, 1998, p. 11). The Internet addiction perspective characterizes PIU as a behavioral addiction similar in character to other impulse control disorders, such as gambling (Beard & Wolf, 2001; Brenner, 1997; Griffiths, 1996, 1997, 1998, 2000; Shotton, 1991; Surratt, 1999; Walther, 1999; Young, 1996, 1998; Young & Rogers, 1998). Individuals who meet these diagnostic criteria are held to experience 'social, psychological, and occupational impairment' resulting from their Internet use, such as: ''*poor grade performance among students, discord among couples, and reduced work performance among employees*'' (Young & Rogers, 1998, p. 25).

However, it must be remembered that at the end of the 1990s and the beginning of the 2000s, the Internet was different from how it is nowadays. Few people used computer mediated communication and online life was mostly separate from offline life, and the use of the Web produced a strong spill-over effect. That meant that the time spent on the computer was taking away from traditional social relationships. After the spread of Web 2.0 and social network sites this distinction became much less clear. Web-chats are mostly used to talk with people you already know and can more easily become a means of strengthening social ties. As the Internet has spread out to pervade 21st century human life, research in this field has become wide and articulated. The existence of many different definitions and measures regarding the use of the Internet is a consequence of different approaches towards the phenomenon (Davis, 2001; LaRose, Mastro, & Eastin, 2001; Caplan, 2002; Tokunaga & Rains, 2010; Kuss, Griffiths, & Binder, 2013; Moreno, Jelenchick, Cox, Young & Christakis, 2011).

The present research adopts the concept of PIU as used in Caplan's studies (Caplan, 2002, 2003, 2005, 2007, 2010), and is rooted in Davis' cognitive-behavioral theory (Davis, 2001) in which PIU is 'Pathological Internet Use'. Furthermore, following the Caplan theory (2002, 2003, 2005, 2007, 2010), this research focuses on PIU rather than taking a merely clinical approach (e.g. Internet Addiction). Defining the use of the Internet as problematic does indeed not only involve a clinical issue, but also considers a set of technological features that affect everyday life but do not necessarily lead to an addiction or a pathology in a purely clinical sense. Nevertheless, studies related to Internet addiction and the pathological use of the Internet should be taken into consideration because in some studies PIU behaviors are labeled as Internet addiction, and because research regarding Internet addiction can provide a fundamental contribution to studies on PIU. In order to move forward, researchers need a theory of PIU and well-being with clearly defined constructs and detailed descriptions of key causal processes involved in PIU. For this reason, the next section presents the cognitive–behavioral theory of PIU (Davis, 2001) as an excellent candidate for advancing research on PIU and health (Caplan, 2002).

1.1 The PIU Cognitive Behavioral Model

An important perspective regarding the definition of PIU considered in this research consists in the distinction proposed by Davis (2001). The model suggests that PIU involves cognitive processes as well as dysfunctional behaviors, which result in negative consequences on individuals' lives (Davis, 2001). The link between psychopathology and PIU had already been noted in earlier empirical studies, though scholars had always considered psychopathology a consequence of PIU, rather than a cause (Young & Rogers, 1998; Lee, Cho, Hung & Moon, 2001; Greenfield, 1999). In this cognitive-behavioral model, as mentioned before, PIU is defined as 'Pathological Internet Use', a multidimensional syndrome consisting of cognitive, emotional, and behavioral symptoms, which lead to difficulties in managing one's offline life (Fioravanti, Primi & Casale, 2013). In this model, PIU can be divided into specific PIU (SPIU), the overuse of content-specific functions of the Internet (e.g., gambling and viewing sexual material), and generalized PIU (GPIU), which happens when a person develops problems because of the exclusive communicative context of the Internet (see Figure 1).

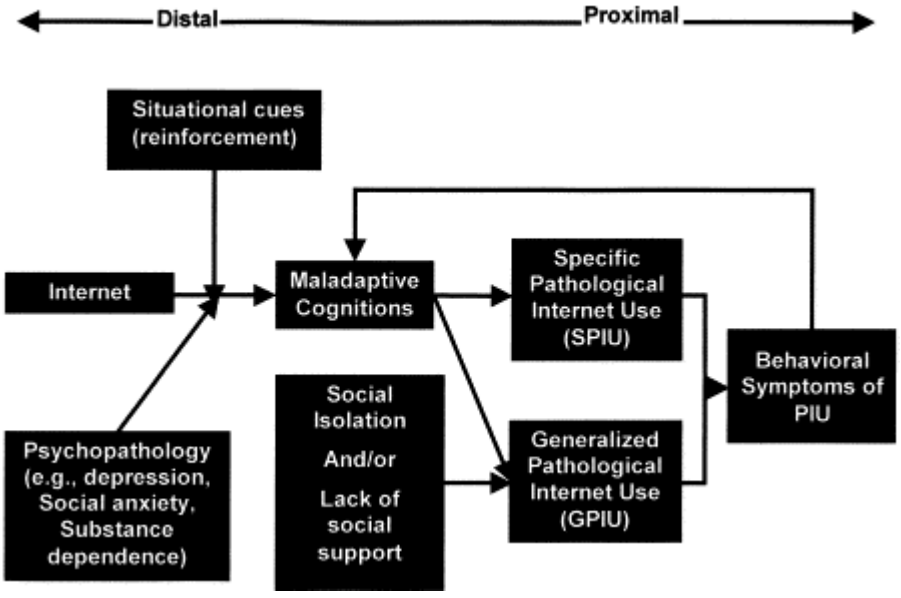

Figure 1: The PIU Cognitive Behavioral Model (Davis, 2001 p. 190)

The cognitive-behavioral model integrates risk factors, psychological processes and consequences related to PIU. It posits that the association of certain situational cues

(e.g. life stressors) with psychopathology could result in problematic behavior. The reinforcing nature of certain Internet-related activities might lead to the development of a conditioned response every time the user is in contact with a given situational cue. For these reasons, those who suffer from psychopathologies are more vulnerable as the Internet may provide immediate relief from negative symptoms. The maladaptive cognitions associated with psychopathology (e.g. negative self-appraisals) have a central role in this process; they facilitate the emergence of Internet-related maladaptive cognitions such as "I am worthless offline, but I am someone online", or "The Internet is my only friend". These cognitions are precipitating factors of either GPIU or SPIU use. At this point, it is highly likely that the individual will suffer from negative life consequences because of problematic Internet use.

One consistent pattern to emerge from this model is the frequent association between PIU and interpersonal uses of the Internet (Caplan & High, 2010; Morahan-Martin, 2007, 2008). To explain why online social behavior is related to problematic outcomes, Caplan (2002, 2003) employed Davis' (2001) cognitive-behavioral model of Generalized Problematic Internet Use (GPIU). According to Caplan's study (2002, 2003, 2005, 2007, 2010), at this point, it is fundamental to clarify the evolution of the GPIU theory model and further updates, since this research's theoretical model starts from those studies.

1.2 The Evolution of Generalized Problematic Internet Use

As mentioned before, Davis (2001; Davis et al., 2002) introduced a cognitive-behavioral theory of generalized PIU, asserting that psychosocial problems such as loneliness or depression predispose individuals to develop maladaptive Internet-related cognitions and behaviors that ultimately result in negative outcomes (Caplan, 2010). The theoretical assumptions of the cognitive-behavioral model (Davis, 2001), described previously, were tested by the Generalized Problematic Internet Use Scale (GPIUS) (Caplan, 2003, 2005). The GPIUS was designed to measure the degree to which individual experiences the types of cognitions, behaviors, and outcomes that Davis describes as constituting generalized PIU (Caplan, 2002).

Caplan (2002) conducted an exploratory principal-axis factor analysis on the original GPIUS items, finding seven dimensions:

1. ***Mood Alteration***: using the Internet to facilitate some change in negative affective states,
2. ***Social Benefits***: the perceived social benefits of Internet use,
3. ***Social Control***: the perceived degree of control over self-presentation when interacting with others online,
4. ***Withdrawal***: a preoccupation with the Internet,
5. ***Compulsive Use***: an inability to control or regulate one's online behavior,
6. ***Excessive Time Online***: the degree to which an individual felt that he or she spends an excessive amount of time online,
7. ***Negative Outcomes***: the extent to which an individual has experienced personal, social, and professional problems resulting from Internet use.

Further investigation integrated new research contributions and yielded helpful additional information which led to the improvement of the GPIUS (Caplan, 2010). Thus, considering the findings that regarded GPIUS as the fundamental role of Internet's social dimension (Caplan, 2003) and the impact of deficient self-regulation (LaRose, Lin & Eastin, 2003), the new version of the instrument was named Generalized Problematic Internet Use Scale 2 (GPIUS2) (Caplan, 2010). The GPIUS2 includes four cognitive symptoms: (1) preference for online social interactions (POSI), (2) mood regulation, (3) deficient self-regulation (consisting of a compulsive use

subscale and a cognitive preoccupation subscale), (4) and negative outcomes (Figure 2).

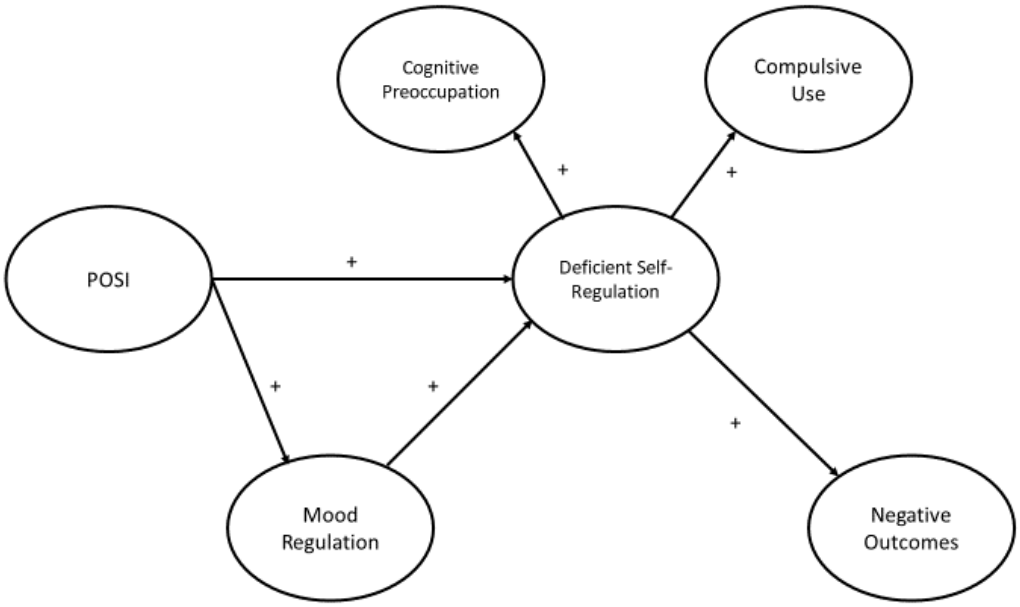

Figure 2: Hypothesized model of GPIUS2 (Caplan, 2010)

According to the GPIUS2 (Caplan, 2010) both POSI and mood regulation are direct predictors of deficient self-regulation. This symptom refers to a person's inability to control their own Internet use. LaRose et al. (2003) adopted the term 'deficient self-regulation' from Bandura's studies (1986, 1991) in order to explain the process that leads to a reduced self-control with regards to the Internet. Furthermore, LaRose et al. (2003) explain why mood regulation might result in deficient self-regulation: the frequent association of negative mood states with Internet use lead to a conditioned response and habit formation. Therefore, users develop the impulse to be online every time they have negative feelings. Over time, it becomes more difficult to control this response. The construct of deficient self-regulation consists of a cognitive preoccupation and compulsive use. The cognitive preoccupation regards obsessive thoughts about the Internet (e.g. "I can't stop thinking about going online"), while compulsive use is the inability to control the online behaviors (e.g. "I have difficulty controlling the amount of time I spend online"). So, when the users arrive at the point of being unable to control their Internet use, it is highly likely that they will consequently experience negative outcomes. This is the result of spending personal

resources (e.g. time) to be online. For these reasons, individuals might start having family conflicts, financial difficulties, health, or other issues such as poor performance at work or school (Breslau, Aharoni, Pedersen, & Miller, 2015).

In summary, it is fundamental to refer to Davis' cognitive-behavioral model and Caplan's Generalized Problematic Internet Use Scale 2 (GPIUS2), because these studies considered the definition of PIU. Moreover, following Davis' (2001) theoretical considerations and starting from Caplan's assumptions, it is possible to assume that there was an evolution in terms of defining PIU not as 'Pathological Internet Use' but as 'Problematic Internet Use' just as it had been theorized in the Caplan's study (2002, 2003, 2005, 2007 2010). This theory is also integrated in Moreno, Jelenchick, and Christakis (2013) and in Mazzoni, Baiocco, Cannata and Dimas (2016), who argue that while the term 'addiction' refers to a disease implying a loss of control, withdrawal symptoms and overuse, the expression of "Problematic Internet Use" broadens the concept to a usage of the Internet that negatively affects a person's offline life.

1.3 Factors Related to Problematic Internet Use: A Theoretical Perspective

Following the previous assumption and considering the concept of PIU (PIU), one of the goals of this research is to clarify when, how and under which conditions Internet usage is problematic for people. Indeed, starting from the perspective of Activity Theory (Nardi, 1996; Engeström, Miettinen, & Punamäki, 1999) in the study of Ekbia and Nardi (2012), it is possible to consider the Internet as a part of the process of inverse instrumentality. The authors studied a number of software technologies, Massive Multiplayer Online Role-Playing Games and National Healthcare Database Systems that rely on the participation of people in order to function. "[..] w*e argue that some large, complex technological systems cannot meet their goals without instrumentalizing users as indispensable mediators in the system. Such systems, which we call "technologies of objectification", stand in contrast to "technologies of automation" such as banking and financial systems.* [...]*"* (Ekbia & Nardi, 2012, p. 139). Indeed, it is possible to describe Inverse Instrumentality as "*that phenomenon that may happen during the long-term interactions between a technology and a user in which there is a kind of double mediation at play in systems of inverse instrumentality; subjects act as intentional beings in pursuit of object-oriented activity using technologies to mediate relations with reality, while at the same time, subjects are objectified through interactions with the technology to become particular kinds of transformed subjects*" (Ekbia & Nardi, 2012, p. 149). At this point, a question arises spontaneously: which are those factors that lead to PIU and render the Internet an inverse instrumentality tool? Considering the previous theoretical assumption, factors that have been considered in this research that are related to PIU are: Self-esteem, Self-control, Online social-support, Offline social-support, Mindfulness and Cognitive Absorption.

1.4 Self-Esteem

Grounded in the PIU cognitive-behavioral model (Davis, 2001), scholars have investigated the role of psychological well-being as an antecedent of problematic Internet behavior. Links were found with depression (Pontes, Patrão, & Griffiths, 2014), social anxiety (Weinstein et al. 2015), life satisfaction (Wartberg, Kriston. Kammeri, Petersen, & Thomasius, 2015), and loneliness (Caplan, 2007), among many other well-being-related variables. Considering this assumption, self-esteem is an indicator of psychosocial well-being (Caplan & High, 2011) and there is enough theoretical support to explain its relationship with PIU. The empirical evidence that supports this premise will be described below.

Self-esteem refers to a person's overall evaluation or judgment of his or her own self, involving favorable or unfavorable attitudes (Rosenberg, 1965). When individuals exhibit lower self-esteem, they are also more likely to evaluate themselves negatively (Baumeister, 1993).

Several studies have investigated the relationship between low self-esteem and addiction. For instance, Craig (1995) observed that individuals with lower self-esteem are more likely to take addictive substances, as they are oversensitive to negative feedback from others and try to alleviate the stress provoked by social relationships. Moreover, individuals with lower self-esteem are more likely to rely on digital media (Bianchi & Philips, 2005).

The relationship between PIU and self-esteem has also been confirmed by research. Findings indicate that individuals with lower self-esteem are more prone to developing PIU symptoms (Ko, Yen, Chen, Chen & Yen, 2007; Armstrong, Phillips, & Saling, 2000; Davis, Flett, & Besser, 2002). Mei et al. (2016) replicated these results in a sample of Chinese high school students. Despite these encouraging findings, other studies did not identify any relationship between the previously mentioned variables (Caplan, 2007; Fioravanti, Dèttore & Casale 2012; Koronczai et al., 2013). Indeed, although various studies have suggested an inverse relationship between self-esteem and PIU (e.g., Johnson, 2011; Widyanto & Griffiths, 2011), other studies have shown that this relationship is not so straightforward (Kuss & Griffiths, 2011; Zywica & Danowski, 2008). Kuss and Griffiths (2011) found that low and high self-esteem do

not influence the frequency of Web use. They proposed that these findings could be explained by social enhancement and compensation. Such a proposal is not new in literature. Other researchers (e.g. Żywica & Danowski, 2008) have found that people characterized by greater extroversion and higher self-esteem perceive themselves as more popular both in online and offline life (hypothesis of social enhancement). On the other hand, people with less self-esteem are perceived as less popular both on the Web and in real life (hypothesis of social compensation). One possible hypothesis to explain these results is that if individuals do not receive adequate social-support in daily life, they tend to create a parallel life to activate contacts and build relationships online in order to compensate for this shortage. For this reason, it is possible to assume that self-esteem is negatively related to social skills (Riggio, Throckmorton, & DePaola, 1990) and one can plausibly hypothesize that individuals with lower self-esteem are more likely to have higher POSI scores. Lee and Cheung (2014) tested this assumption by incorporating the variable self-esteem in the GPIUS2 model (Caplan, 2010). Their results proved that individuals who are low in self-esteem prefer online social interactions rather than face-to-face communication. Along with Internet use for mood regulation, this also leads to deficient self-regulation which might result in negative outcomes for the user. In other words, Lee and Cheung (2014) confirmed the relationships between PIU symptoms proposed in the GPIUS2 model (Caplan, 2010). Indeed, many studies that examined the relationships between self-esteem and online social interaction (Valkenburg, Peter, and Shouten, 2006), reported that lower self-esteem might be related to the use of social networking sites (SNSs). However, the type of received feedback moderates this relation: negative feedback on SNSs is related to lower self-esteem, whereas positive feedback enhances it.

1.5 Self-Control

There are several definitions of self-control. Malouf et al. (2014, p 334) define self-control as "[..] *the ability to override impulses and direct responding to conform behavior to one's own standards and goals* [..]". Also, the study of Baumeister and Heatherton (1994) and that of Baumeister, Vohs, and Tice (2007), define self-control as the capacity to alter one's own responses, and especially to bring them into line with standards such as ideals, values, morals, and social expectations, and to support the pursuit of long-term goals. For the objectives of this research the most suitable definition of self-control is that given by Tangey, Baumeister and Boone (2004, p. 275) who define self-control "[..] *as the ability to override or change one's inner responses, as well as to interrupt undesired behavioral tendencies and refrain from acting on them* [..]". Therefore, high self-control levels are associated with the consideration of long-term goals rather than immediate temptations (Baumeister & Heatherton, 1996). Thus, following the GPIUS model and further research, it is possible to assume that people with low self-control might be led to PIU behavior.

As defended in the GPIUS model (Caplan, 2010), one of the antecedents of online socialization is the preference for online social interaction (POSI). POSI is a predictor of the other PIU symptoms (mood regulation, deficient self-regulation consisting of a compulsive use and cognitive preoccupation, and negative outcomes). It means that an individual who prefers online social interactions is more likely to show low self-control and spend many hours online, and consequently show uncontrolled Internet behaviors, experience Internet-related negative outcomes and unregulated Internet use patterns. In this regard, LaRose, Linn and Eastin (2003) underline the importance of self-regulation in the relationship self-control-PIU. This construct has shown itself to be useful in understanding many situations characterized by compulsive or impulsive behavior (Baumeister & Heatherton, 1996) such as online behavior (e.g. checking for, replying to and sending updates, feedback or text messages in online profiles on SNSs many hours per day).

Moreover, many other studies have been conducted using low self-control as a predictor of PIU. In a study which considered a sample of 1,552 Chinese students, it

was observed that individuals with higher self-control levels were less likely to experience PIU symptoms (Mei et al. 2016). These results were observed in Kim, Namkoong, Ku and Kim (2008) and Özdemir, Kuzucu, & Ak (2014) research. Additionally, Khang, Kim, and Kim (2013) found that when tested together with other traits, self-control was predictive of PIU. Furthermore, a low level of self-directedness has also been identified as a predictor of PIU in several studies (Ha et al., 2007; Montag, Jurkiewicz & Reuter, 2010; Montag et al. 2011; Sariyska et al., 2015). This personality trait represents an individual's ability to regulate his or her behavior according to the situation (Cloninger, Svrakic & Przybeck, 1993). It must, however, be noted that the latest theories regarding self-regulation (Heatherton, 2011) suggest that self-directedness is the sum of different factors with self-control being just one of them.

As the capacity of employing self-control varies across individuals, those who find it more difficult are more likely to suffer negative consequences regarding emotional, social, and behavioral adjustment (Malouf et al. 2014). Thus, individuals start accessing the Internet to relieve boredom, reduce loneliness, or pass the time. These can be considered self-reactive incentives that lead to a conditioned response of using the Internet to relieve negative mood states. Over time, this behavior transforms into a habit, and the impulse to be online becomes automatic. The more automatic the behavior, the less attention the individual pays to the self-regulation mechanism (Bandura, 1991) and to the initial motivations that led them to be online. The result is an increasing lack of control of one's own use of the Internet. These considerations lead to the consolidated findings which link low self-control to impulsive behaviors associated with PIU and which have been supported empirically in several studies.

1.6 Online Social-Support and Offline Social-Support

Social-support has been defined as "[..] *the resources provided by another person* [..]" (Cohen & Syme, 1985, p.4). As a psychological resource, social-support has been proven to buffer the effects of stressful events and to have a significant impact on one's well-being (Cohen & Wills, 1985). One of the main functions of the Web 2.0 is a tool for social interactions. Many scholars have investigated the relationship between Internet usage and social-support. Eastin and LaRose (2005) found that the dimensions of one's online social network has a positive relationship with the perception of social-support. Indeed, their findings seem to support the idea that the usage of SNSs has a positive effect on one's perception of social-support.

Some years later Kim and Lee (2011) hypothesized a mediating effect of social-support between the number of Facebook friends and one's well-being. While a mainly positive effect of the number of Facebook friends on well-being was found, the data did not support the idea of mediation. Although these authors believed that the SNSs were a source of social-support, they did not prove it. Not only Leung and Lee (2005) fail to confirm what Eastin and LaRose (2005), found, but the results were inconsistent with those of Eastin and LaRose. In their study it was shown that while social-support has a positive relationship with life satisfaction, the latter is negatively associated with the use of the Web for social interactions. Consisting of studies leading to contradictory findings, the existing literature has not yet shed light on the relationship between the usage of the Internet for social interactions, the perception of social-support and well-being. "[..] *Much remains unknown regarding the benefits and the drawbacks of online social-support* [..]" (Mitchel, Lebow, Uribe, Grathouse & Shoger, 2011, p.1858).

In the present study it will be suggested that the reason why this question remains unanswered could be that the question must be differently addressed. Rather than answering queries such as "is the Internet a source of social-support? is this good for us?", a different question can be addressed: "when do the Internet, and its potential for social-support, lead to either problematic or functional use?". This view supports that of Swickert, Hittner, Harris and Herring (2002), who believe that moderating effects

must be considered in studying the relationship between the Internet and social-support. While these scholars saw personality traits as moderating variables, the present research considers social-support as a dimension that is differently perceived when referring to one's offline or online life. It is hypothesized that, since online and offline social-support are different constructs, one might have a moderating effect on the relationship between the other and the user's well-being. In the perspective theorized by Wang and Wang's (2013) the distinction between offline and online social-support is used. They investigated whether the way people relate to their contacts affects Internet Addiction. The results revealed that having a closer relationship and greater support online increase the risk of Internet Addiction, while more support in one's offline life is negatively correlated with this addiction. The explanation given by the authors is that the construction of predominantly online bonds means that you rely mainly on people in the online world, implying a growing need to stay connected. Research shows that if people feel less confident in face-to-face social interactions they tend to compensate their social needs and get support by frequently interacting with people online. Thus, social-support could be a factor that plays an important role in regulating the use of the Internet. Although social-support may seem like a phenomenon which is inseparable from face-to-face relationships, some studies have shown that online social-support plays an important role in people's life. In parallel, the tendency to look for online social-support leads to the development of negative cognitions such as "online I am someone" which reflect on high POSI scores (Caplan & Highs, 2011). This position is supported by several studies that revealed the links between online social interactions and indicators of low psychosocial well-being, such as psychopathology (e.g. Ybarra, Alexander, & Mitchell, 2005) and interpersonal difficulties (e.g. Caplan, 2005).

The links between psychopathology and the interest in online social interaction have been demonstrated in various studies. Ybarra, Alexander and Mitchell (2005) observed in a sample of adolescents that users with depression are more likely to communicate with strangers online, access the Internet with communicative purposes, and reveal more personal details. Another study revealed that young people who exhibit self-harming behaviors are twice likely to use chat rooms (Mitchell & Ybarra, 2007).

Personality disorders have also been linked to an increased interest in online social interactions: e.g. Mittal, Tessner, & Walker, (2007) observed that adolescents with schizotypal personality disorder are less likely to interact with people in real-life, but are more likely to engage in online social interactions.

Previous studies have also shown that interpersonal difficulties might induce individuals to engage in online social interactions. For instance, links were found with low socials skills (Caplan, 2005), introversion (Erwin, Turk, Heimberg, Fresco, & Hantula, 2004), loneliness (Özdemir, Kuzucu, & Ak, 2014; Morahan-Martin & Schumacher, 2003; Caplan, 2002) and social anxiety (Erwin, Turk, Heimberg, Fresco, & Hantula, 2004; Caplan, 2007). According to these studies, introverted individuals are likely to be online with the objective of receiving social-support and mitigating their isolation. However, the authors also maintain that it is highly unlikely that these needs become fulfilled in the online environment and that there is the risk that these users, over time, will become increasingly alienated from offline life relationships.

1.7 Mindfulness

The theories regarding self-regulation (Bandura, 1991; Baumeister & Heatherton, 1994, 1996; Schunk & Zimmerman, 1994; Muraven & Baumeister, 2000; Deci & Ryan, 2010; Carver & Scheier, 2012; Heatherton, 2011; Vohs & Baumeister, 2016) consider the construct as a sum of different factors with self-control being just one of them. In order to regulate a type of behavior (e.g. being online and using the Internet) it is not only useful to have control over it, but it is also necessary to understand that what you are doing is different from what you want to do. This ability of being simultaneously in contact with the self and with the surrounding environment with the aim of reaching self-directedness has been studied by different scholars through the construct of mindfulness (Bodner, 2001; Baer, Smith, & Allen, 2004; Brown & Ryan, 2003, 2004; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Abba, Chadwick, & Stevenson, 2008; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008; Baum et al., 2010; Brown, West, Loverich, & Biegel, 2011; Chiesa, Calati, & Serretti, 2011). Despite mindfulness having recently gained increasing importance in psychology (for complete reviews see Zvolensky et al. 2005; Baer, 2003; Keng, Smoski, & Robins, 2011; Sauer et al., 2013), studies have mostly been focused on interventions mainly related to clinical psychology, including some that have looked at individuals with depression and other mood disorders (Robins 2002; Teasdale et al. 1994, 2000), addictive disorders (Marlatt 2002; Witkiewitz et al. 2005), chronic pain (Kabat-Zinn et al. 1987), cardiopulmonary disease (Solberg et al. 1995), and various other medical conditions (e.g., Logsdon-Conradsen 2002; Mills and Allen 2000). Furthermore, the latest research connecting mindfulness to the use of the Internet are merely related to clinical intervention (Ljótsson et al., 2010, 2011; Monshat, Vella-Brodrick, Burns, & Herrman, 2011; Dowd et al., 2015) or to Internet Addiction (Boettcher et al., 2014). It is therefore necessary to go beyond these studies in order to bring new perspectives to interpret the recent rapid changes related to mindfulness and the use of the Internet. Thus, this research considers the role played by mindfulness on PIU. In this regard, according to MacKillop and Anderson (2007), mindfulness is the ability to be simultaneously in contact with the self and with the surrounding environment with the

aim of reaching self-directedness that "[..] *can broadly be described as objective experiential awareness and is believed to be a psychological property that can be cultivated or depleted* [..]*"* (p.289). Mindfulness precisely defines the presence or absence of attention related to what happens in the present (Walach et al., 2006). Since it plays an important role in maintaining a certain amount of attention and avoiding negative types of behavior, it is possible to assume that this factor, combined with self-regulation, affects PIU because one of the most common experiences during time spent online is the unawareness of time passing.

1.8 Cognitive Absorption

Agarwal and Karahanna (2000) used the term 'cognitive absorption' for the first time in literature in relation to Information and Communication Technologies (ICT). The definitions of cognitive absorption derive from three closely related constructs which are defined as follows:

1. ***Personality Trait Dimension of Absorption***: a state and a trait variable that include a condition of deep attention and commitment (i.e. the individual is perceptually engrossed with the experience),
2. ***State of Flow***: the state in which a person is so involved in an activity that nothing else seems to matter more than that activity (Csikszentmihalyi, 1990, 1992, 1996, 2014),
3. ***Cognitive Engagement***: a multi-dimensional cognitive state in which a person is interested, curious and has a focused attention on the task which he or she is carrying out at that moment (e.g. being online).

Although cognitive absorption represents a positive state, in some circumstances it could be an antecedent of PIU. Scholars have mostly focused on one single possible outcome of being cognitively absorbed in the use of the Internet, and they discovered strong a relationship between both negative and positive outcomes of cognitive absorption during different activities (Agarwal, Sambamurthy, & Stair, 1997; Seib & Vodanovich, 1998; Jia, Hartke, & Pearson, 2007; Oh & Sundar, 2015).

In the present study, a high score of cognitive absorption when using the Internet allows a better use of it, but at the same time, it can lead to compulsive phenomena, just like high work engagement can be found in both happy professionals and in

workaholics. If cognitive absorption can be used as a predictor of the dark and the bright side of the Internet, it is not enough to assess its level to make any useful prediction. It is necessary to understand which are the moderator variables. Therefore, in line with Agarwal and Karahanna (2000) and further research which examined the relationship between cognitive absorption and the use of the Internet and SNSs (Saadé & Bahli, 2005; Zhang & Sun, 2006; Leong, 2011; Rouis, 2012), the basic idea of this research is that cognitive absorption is related to the use of the Internet and online activities, and this can lead to either problematic or functional use of it based on the total score on the Cognitive Absorption Scale. Indeed, the cognitive absorption scale (Agarwal and Karahanna, 2000) is composed of 5 subscales measuring: (1) Temporal Dissociation (TD), (2) Focused Immersion (FI), (3) Heightened Enjoyment (HE), (4) Control (CO) and (5) Curiosity (CU). The involvement of all factors could either lead to an inverse instrumentality process or make the Internet a functional organ (Benvenuti, Mazzoni & Piobbico, 2016).

1.9 Hypotheses Related to the Problematic Internet Use

In this paragraph those hypotheses directly concerning PIU will be described in order to answer the question: “when and under which conditions is the Internet problematic for people?”. The aim of answering this question is twofold. Firstly, half of this research aims to shed light about the conditions under which people could experience negative consequences during their use of the Internet, that is: when the use of the Internet is more likely to be a risk. Secondly, in order to verify these processes, conceptual and statistical models (Preacher & Hayes, 2004; Hayes, 2009; 2012; 2017) which investigate the moderating and mediating effects of involved factors were theorized (Pietrantoni & Prati, 2008; Preacher & Hayes, 2008; Hayes, 2009; 2011, 2012; 2015; 2017a, 2017b; Hayes, Montoya, & Rockwood, 2017). Following these premises - the theoretical background and the previously described theories of involved factors, three hypotheses related to PIU have been theorized. Moreover, for each hypothesis both the conceptual and statistical diagrams that represent the total direct, indirect and conditional (direct and indirect) effects of the multiple moderated (H1) and moderated mediated (H2; H3) variables have been theorized. Furthermore, it is important to specify that the hours per day spent online refer to the total number of hours that a person is connected to the Internet each day. It was decided to choose the number of hours per day spent online (both during free time and work), and not the ones spent using a single device (e.g. "how many hours do you connect on your smartphone?"), because a person could be connected on multiple devices simultaneously (e.g. smartphones and computer). Finally, all hypotheses were applied and tested separately for each age group: adolescents, younger emerging adults, older emerging adults and adults.

The first hypotheses related to PIU are the following:

H1. *The hours per day spent online (X) affect PIU (Y), through the moderation gender (M) and age (W)* (see Figure 3 and 4).

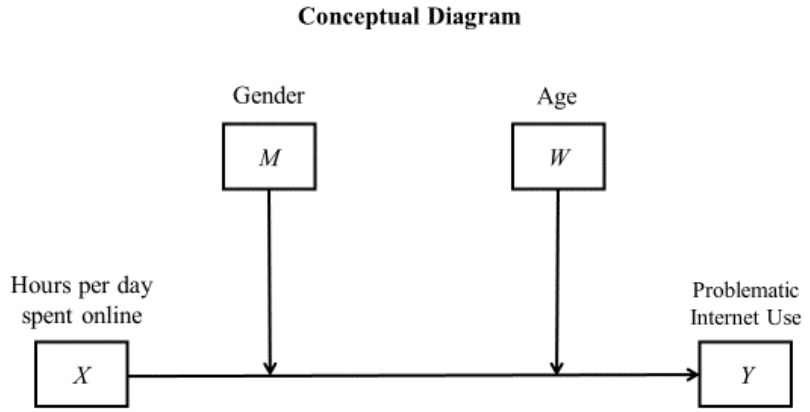

Figure 3: Graphical representation of H1 concerning the conceptual diagram of multiple moderation hypothesis (Model 2 - Heyes, 2017b)

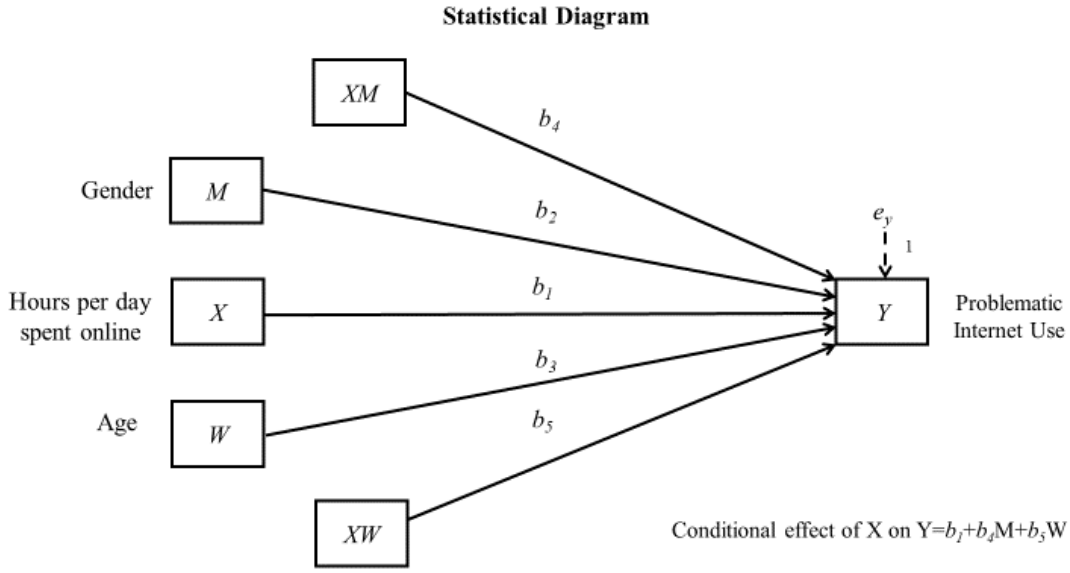

Figure 4: Graphical representation of H1 concerning the statistical diagram of multiple moderation hypothesis (Model 2 - Heyes, 2017b)

Considering the previously described literature concerning the use of the Internet (Davis, 2001; Caplan, 2002, 2003, 2005, 2007, 2010; Mazzoni, Baiocco, Cannata & Dimas, 2016; Mazzoni, Cannata & Baiocco, 2017; Benvenuti, Mazzoni & Piobbico, 2016), it is expected that: increasing the number of hours connected also increases

PIU, for both males and females in all age groups (adolescents, younger emerging adults, older emerging adults and adults). Gender differences in the relations showed in the model are also considered. In this regard, many studies in literature have highlighted gender differences in favor of males compared to females, in the use of both ICTs (Whitley, 1997; Shashaani, 1994; Volman, Broos, 2005; Van Eck, Heemskerk, & Kuiper, 2005; Meelissen & Drent, 2008) and the Internet (Bimber, 2000; Odell, Korgen, Schumacher, & Delucchi, 2000; Weiser, 2000; Gross, Juvonen, & Gable, 2002; Li & Kirkup, 2007). Despite technologies having spread very rapidly in recent years, with the mass diffusion of smartphones and tablets, a digital divide in the use of ICTs between females and males still exists (DiMaggio & Hargittai, 2001; Ching, Basham, & Jang, 2005; Cooper, 2006; Van Deursen, & Van Dijk, 2014) and there are significant cultural characteristics (e.g. males are more likely to use technologies compared to females) that drive males to use ICTs and the Internet more than females (Heemskerk, Brink, Volman, & Ten Dam, 2005; Volman, Van Eck, Heemskerk, & Kuiper, 2005; Best & Maier, 2007; Meelissen & Drent, 2008; Tømte & Hatlevik, 2011). It is therefore important to verify and consider gender differences in the use of the Internet and, more specifically, discover if there are differences in their PIU scores. Males are expected to have higher levels of PIU compared to females in all age groups.

The second hypothesis verifies the relationships between three factors: self-control, mindfulness and cognitive absorption (Agarwal & Karahanna, 2000; Tangey, Baumeister, & Boone, 2004; MacKillop & Anderson, 2007; Caplan, 2010; Wang & Wang, 2013; Malouf et al., 2014) and the connection between 'hours per day spent online' and PIU:

H2. *The hours per day spent online (X) affect PIU (Y), through the mediation of cognitive absorption (M_i) and the moderation of self-control (W) and mindfulness (V)* (see Figure 5 and 6).

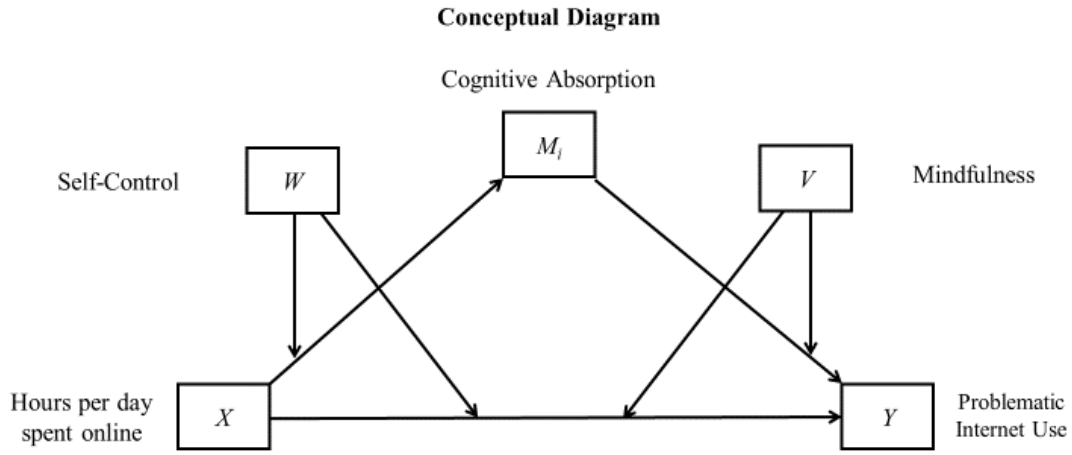

Figure 5: Graphical representation of H2 concerning the conceptual diagram of multiple moderated mediation hypothesis (Model 29 - Heyes, 2017b)

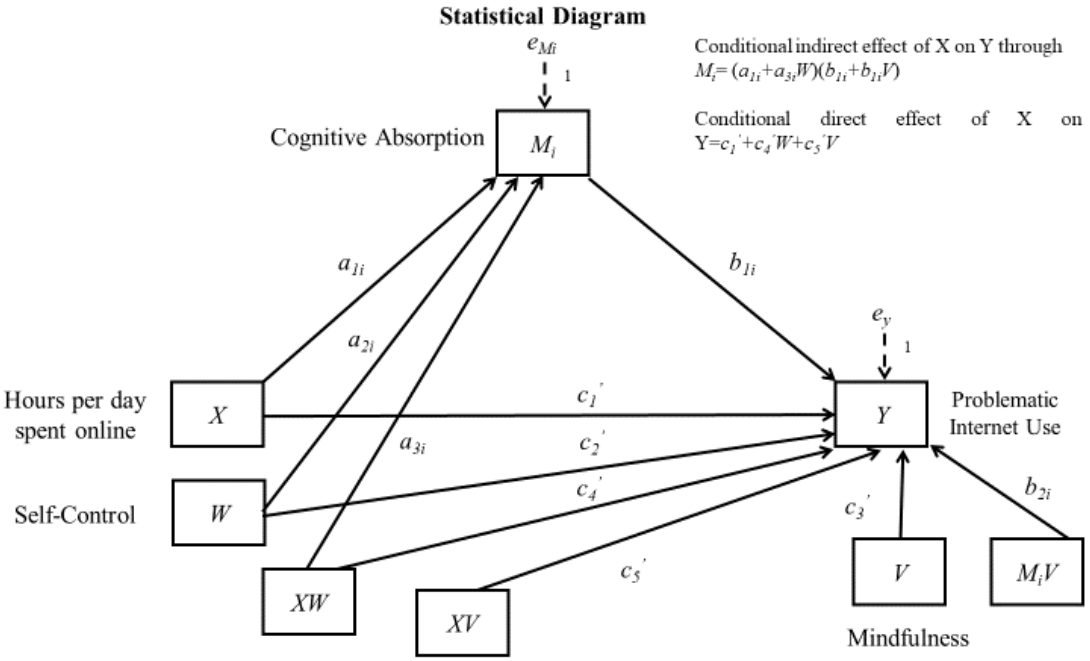

Figure 6: Graphical representation of H2 concerning the statistical diagram of multiple moderated mediation hypothesis (Model 29 - Heyes, 2017b)

Self-control is considered in literature as a PIU predictor in several studies (Shapira, Goldsmith, Keck, Khosla, & McElroy, 2000; LaRose, Linn, & Eastin, 2003; Kim, Namkoong, Ku & Kim, 2008; Caplan, 2010; Khang, Kim, & Kim, 2013; Özdemir, Kuzucu, & Ak, 2014; Mei et al., 2016) in which lower levels of self-control increase the number of hours per day spent online and consequently PIU. Self-control is a moderator in the relationship between hours per day spent online and PIU, as it explains under what circumstances (low self-control) high levels of PIU are manifested. Self-control, however, is not the only factor affecting the relationship hours per day spent online - PIU. Indeed, when a person is connected to the Internet, he/she may not realize the amount of time that has passed as he/she is completely absorbed in the activity. As a result, the person risks spending a lot of time on the Internet and presenting high levels of PIU. Cognitive absorption is, in this case, a mediator because it has an indirect effect on the hours per day spent online and PIU, and explains how and under which conditions a person might display high levels of PIU. In this relationship, however, self-control plays a role that can also affect the direct relationship hours per day spent online - cognitive absorption. In this case, self-control acts as a moderator, because it explains how a person with low levels of self-

control can increase both cognitive absorption and the number of hours per day spent online. Finally, the final factor that plays an important role in this model is mindfulness. Mindfulness, according to MacKillop and Anderson (2007), is the awareness of what you are doing at a given time (e.g. using the Internet). Mindfulness is considered as a moderator in the relationship hours per day spent online - PIU. Indeed, the less a person is aware of what he/she is doing in a specific situation, the more hours per day that person spends online and the more he/she is likely to develop high PIU. In addition, mindfulness influences the direct relationship cognitive absorption - PIU. In this case too mindfulness is a mediator, because a person with a high cognitive absorption is less aware of what he/she is doing, and therefore may have high levels of PIU.

Summarizing, this hypothesis shows a model that considers self-control (mediator and moderator), cognitive absorption (mediator) and mindfulness (mediator and moderator). Thus, according to Edwards and Lambert (2007), Heyes (2015), Muller, Judd and Yzerbyt (2005), the considered factors present both mediation and moderation relations, so it is possible to talk about multiple moderated mediation.

The third hypothesis related to PIU verifies the relationships between three other factors: self-esteem, online social-support and offline social-support (Rosenberg, 1965; Caplan & High, 2011; Wang & Wang, 2013) and the connection between 'hours per day spent online' and PIU:

H3. *The hours per day spent online (X) affect PIU (Y), through the mediation of Online Social-support (M_i) and the moderation of Self-Esteem (W) and Offline Social-support (V)* (see Figure 7 and 8).

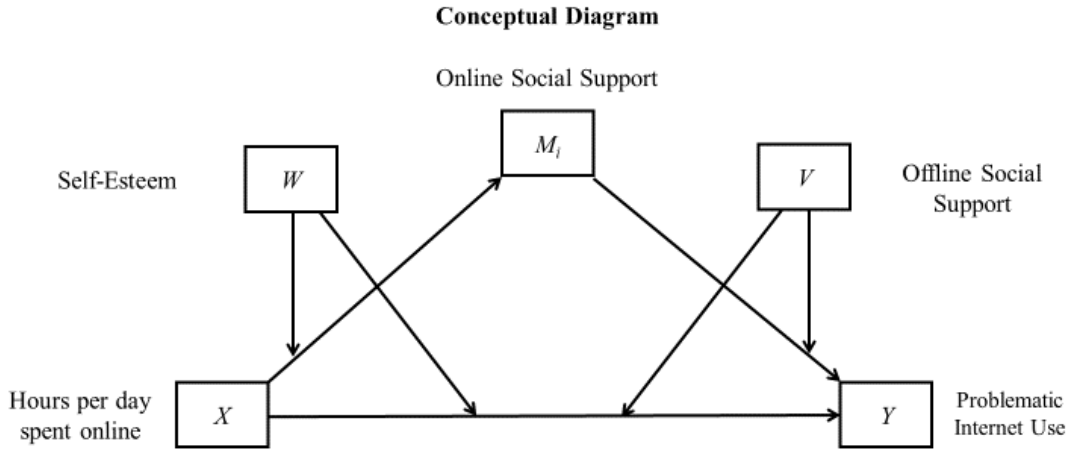

Figure 7: Graphical representation of H3 concerning the conceptual diagram of multiple moderated mediation hypothesis (Model 29 - Heyes, 2017b)

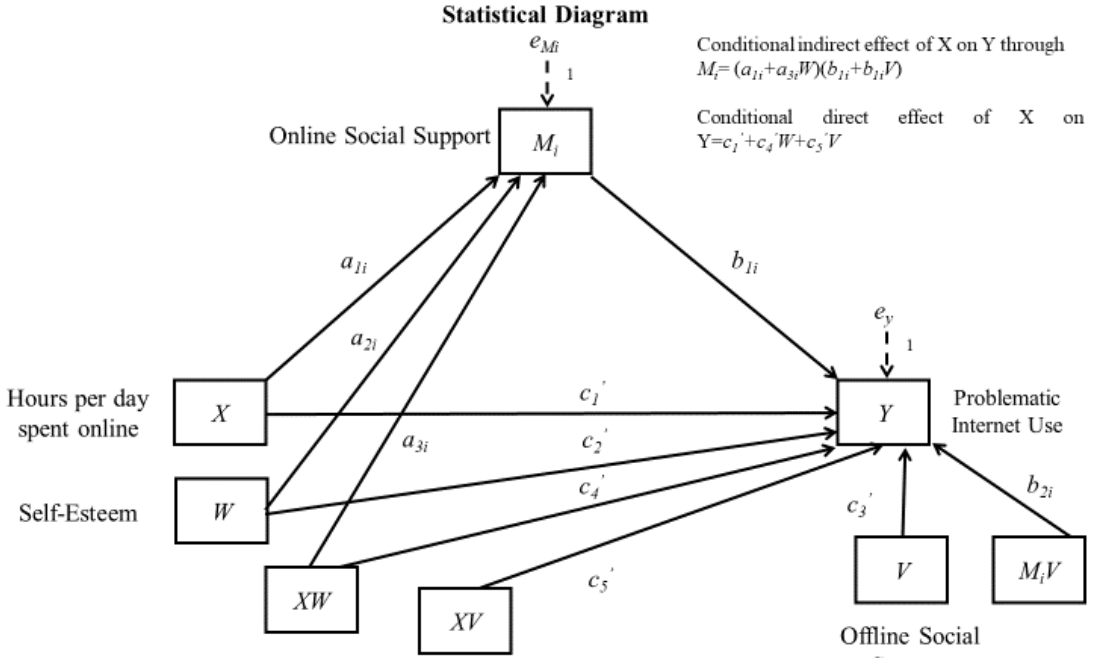

Figure 8: Graphical representation of H3 concerning the statistical diagram of multiple moderated mediation hypothesis (Model 29 - Heyes, 2017b)

In literature, self-esteem is considered a PIU predictor (Armstrong, Phillips, & Saling, 2000; Davis, Flett, & Besser, 2002; Ko, Yen, Chen, Chen & Yen, 2007; Caplan & High, 2011) in which lower levels of self-esteem increase the number of hours per day spent online and consequently the PIU. Self-esteem is a moderator in the relationship hours per day spent online - PIU, because it explains under what circumstances (low self-esteem) high levels of PIU are manifested. Self-esteem, however, is not the only factor affecting the relationship between hours per day spent online and PIU. Indeed, when a person is connected to the Internet, he/she is looking for people to interact with online (like chatting or video interacting) and this is shifted to search for online-social-support. As a result, the person risks spending a lot of time on the Internet and presenting high levels of PIU. Online social-support is, in this case, a mediator; because it has an indirect effect on the number of hours per day spent online and PIU, and explains how and under which conditions a person might display high levels of PIU. In this relationship, however, self-esteem also has a role whereby it can affect the direct relationship hours per day spent online – online social-support. In this case, self-esteem acts as a moderator, because it explains how a person with low levels of self-esteem tends to increase the search for online social-support and consequently

augment the number of hours per day spent online. Finally, the last factor that plays an important role in this model is offline social-support. Offline social-support, according to Wang and Wang's studies (2013) and the previous definition of social-support (Cohen & Wills, 1985), is the resources provided by another person in one's offline life. Offline-social-support is considered a mediator in the relationship hours per day spent online - PIU. Indeed, the more social-support a person has in his/her offline life, the less likely it is that he/she will search for someone online, thus decreasing online social-support. Consequently, the person spends fewer hours online and he/she tends to develop low PIU. Furthermore, offline social-support influences the direct relationship between online-social-support - PIU. Moreover, in this case offline social-support is a mediator, because a person with low levels of offline social-support tends to look for people online (social compensation). Consequently, a person with high levels of online social-support tends to spend many hours online, and therefore may have high levels of PIU.

In summary, in this hypothesis a model that considers self-esteem (mediator and moderator), online social-support (mediator) and offline social-support (mediator and moderator) is shown. Thus, according to Muller, Judd and Yzerbyt (2005), Edwards and Lambert (2007) and Heyes (2015), the considered factors present both mediation and moderation relations, so it is possible to talk about multiple moderated mediation.

CHAPTER 2

FUNCTIONAL INTERNET USE

2. WHEN THE INTERNET IS A FUNCTIONAL TOOL

In 2008 TED talks, Martin Seligman[1], one of the major exponents of positive psychology (Seligman, 2004; Seligman & Csikszentmihalyi, 2014; Seligman, Steen, Park, & Peterson, 2005), explained why people also need to explore the bright side of psychology. He stated that in its struggle to fight problems and illnesses science has lost the ability to understand what really makes people happy: "a good life is not a life without problems, but an enriching and meaningful one[1]. Furthermore, he also emphasizes the role of technology in today's society, because it is important to underline that technology "can be 'good enough' if it is applied to help us live pleasant, good and meaningful lives: The Internet has the potentiality to help us in this way"[1]. Nonetheless, despite in recent years more and more people being able to connect to and use the Internet everywhere and in almost every country in the world[2], studies in literature have mainly focused on the problematic/addictive use of the Internet compared to the functional/positive one (Beard & Wolf, 2001; Davis, 2001; Caplan, 2002; Griffiths, 1996, 1997, 1998; Jelenchick, Cox, Young & Christakis, 2011; Kuss, Griffiths, & Binder, 2013; LaRose, Mastro, & Eastin, 2001; Tokunaga & Rains, 2010; O'Reilly, 1996; Pratarelli et al., 1999; Shaffer, Hall, & Vander Bilt, 2000; Shotton, 1991; Surratt, 1999; Stein, 1997; Young, 1996, 1998; Young and Rogers, 1998).

Indeed, there are still only a few studies related to psychology that have considered the Internet as a tool which could enhance human skills and become functional for people (Baiocco et al., 2015; Mazzoni, Baiocco, Cannata, & Dimas, 2016; Sum, Mathews, Pourghasem, & Hughes, 2009; Shah, Kwak, & Holbert, 2001; Vella-Brodrick &

[1] https://www.ted.com/talks/martin_seligman_on_the_state_of_psychology?language=it

[2] http://www.Internetworldstats.com/stats.htm

Klein, 2010). For instance, Saha, Kwak and Holbert (2001), whose study was carried out many years before the Web 2.0 era, claimed that those scholars who had pointed out either negative or positive consequences of the Internet usage had "[..] *tended to view the Internet as an amorphous whole, neglecting the fact that individuals make very different uses of this emerging medium* [..]" (p.142). Therefore, in order to explore the importance that the Internet has on people's behaviors and the way they use it, the authors distinguished between the use of the Internet for: (1) information, (2) social-recreation, (3) product consumption and (4) financial management. They investigated how these different behaviors are respectively related to: (a) civic engagement, (b) interpersonal trust and (c) contentment. While civic engagement was assessed by questioning participants about their commitment to volunteering, community projects and club meetings; interpersonal trust was evaluated through a Likert scale which investigated the extent to which respondents found other people trustworthy, and contentment referred to one's life satisfaction. The latter was found to be negatively associated to product consumption in the use of the Internet and positively associated to its usage for financial management. Furthermore, while a social-recreational use of the Internet predicted negative values for the three dependent variables (civic engagement, interpersonal trust and contentment); the informational use (which refers to surfing the Web to look for information and exchanging emails) was found to be positively related to them.

The authors explained this result by suggesting that those who look for more information could be more likely to find opportunities for involvement in civic engagement, that receiving information could enhance their trust in other people and the whole circle could boost their contentment. Other studies focused specifically on the usage of SNSs and showed that it can lead to positive outcomes, high levels of well-being and consequently improve life satisfaction (Burke, Marlow, & Lento, 2010; Oh, Ozkaya, & LaRose, 2014; Valenzuela, Park, & Kee, 2009). Valkenburg, Peter and Schouten (2006) found that the use of SNSs was positively associated to well-being through the mediation of enhancement and self-esteem, but only in cases of positive feedback being received (the tone of the feedback was a moderating variable). In a sample of Chinese and Taiwanese students, Liu and Tsai (2012) confirmed that the

frequent use of SNSs could lead to higher levels of self-esteem when positive reactions are received (e.g. positive comments or many "Likes" in published posts). A positive association was also found between the number of Facebook friends and subjective well-being (Ellison, Steinfield, & Lampe, 2007, 2008, 2011; Kim & Lee, 2011). Ellison, Steinfield and Lampe (2007) investigated the role played by Facebook and SNSs in a sample of college students in building and maintaining social capital, i.e. the resources associated with relationships with other people within a community. Scholars distinguish between bridging social capital and bonding social capital, with the latter referring to tighter ties involving emotional support. The intensity of the use of SNSs was positively associated with the formation and maintenance of bridging social capital and bonding social capital, with the strongest relationships found with bridging social capital (Mazzoni & Iannone, 2014). In addition, Facebook usage was found to correlate with well-being and self-esteem. That is to say, for infrequent users, self-esteem and well-being were positively associated with social capital, so that people with higher scores in these areas also had higher social capital. On the other hand, for more frequent users, social capital did not depend either on their self-esteem or on their life satisfaction. The use of Facebook appears to be particularly favorable for the social capital of people with lower self-esteem and life satisfaction. A team of researchers from the University of Austin, Valenzuela, Park and Kee (2009), drew on Ellison, Steinfield and Lampe's (2007) study and used their Intensity of Facebook Use Scale to investigate the relationship between this dimension and one's social capital. In addition to the intensity of Facebook use, they hypothesized that the intensity of the usage of one of its main contents, Facebook groups, would be a predictor of certain dimensions of social capital. Indeed, differing from the previous study, they assessed social capital by splitting it into different dimensions. Their findings showed that the intensity of Facebook usage and of groups, positively predicts all the dimensions of the social capital being evaluated, namely: civic participation, political engagement, life satisfaction and social trust. In summary, this area of studies, investigating how the Internet could represent a resource, goes in the direction of showing that Internet usage could enhance well-being, strengthen one's ties within a community and improve interpersonal trust.

Another series of studies regarding functional Internet use (FIU), are focused on how users enjoy the Internet. Central for these kinds of studies is the positive psychology concept of flow (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2014; Mazzoni, Cannata, & Baiocco, 2017; Nakamura & Csikszentmihalyi, 2002). Flow is a state of consciousness characterized by a strong and enjoyable attention to a task. To elicit this flow there must be no discrepancy between the difficulty of the task and the ability of the individual, so that it is neither boring nor stressful. Rettie (2001) defines Internet flow as the force that keeps people glued to the screen when they are doing a Web-based activity and she underlines the need for programmers to elicit this state in order to enable people to fully enjoy their activities. Moreover, Skadberg and Kimmel (2004) observed how people with greater experiences of flow learn better and more easily take positive actions while surfing on the Internet.

Another relevant aspect studied in literature regarding FIU concerns its potential use amongst the elderly (Chen, & Persson, 2002; Cody, Dunn, Hoppin, & Wendt, 1999; Gatto & Tak, 2008; Shapira, Barak, & Gal, 2007; Sum, Mathews, Pourghasem, & Hughes, 2009; Zickuhr & Madden, 2012). Maintaining ties with other people is important for successful ageing (Solomon & Peterson, 1994). Many older people are at risk of social isolation; they may lose important components of their social environment through retirement and have diminished contact with relatives and friends because of illness or geographical location (Victor, Scambler, Bond, & Bowling, 2000). The Internet may provide ways for people to maintain such social ties (Ellison, Steinfield, & Lampe, 2007, 2008, 2011). These studies have underlined that the use of the Internet amongst the elderly for communication with relatives and friends was directly associated with lower levels of social loneliness. In contrast, using the Internet for communication with unknown people was associated with greater levels of family loneliness (Sum, Mathews, Pourghasem, & Hughes, 2009). According to Gross, Juvonen and Gable (2002) who investigated the relationship between Internet use and well-being, feelings of loneliness and anxiety are associated differently with communication via the Internet according to the type of person with whom they engaged in conversation (i.e., loneliness and anxiety appeared in communication with unknown people). These results suggest that it is appropriate to alert elderly people to

different effects of the Internet and lead them towards the use of specific functions of the Internet with the aim of reducing feelings of loneliness in order to increase their well-being (Sum, Mathews, Pourghasem, & Hughes, 2009). Indeed, evidence suggests that strong social networks help to reduce depression, improve health and manage stress (Berkman, 1985; Cohen & Syme, 1985; Crawford, 1987; Lubben & Gironda, 1996; Seeman, 1996). As the Internet is transforming the way people communicate it may also affect social networks (Coget, Yamauchi, & Suman, 2002; Bargh & McKenna, 2004; Boase, Horrigan, Wellman, & Rainie, 2006; Katz & Aspden, 1997; Kraut et al., 1998; Kraut et al., 2002; Matei & Ball-Rokeach, 2001; Nie & Hillygus, 2002; Wellman, Haase, Witte, & Hampton, 2001). Social networks connect people to each other, provide social support and increase social capital (Heaney & Israel, 2008; Hogeboom, McDermott, Perrin, Osman, & Bell-Ellison, 2010; Katz & Aspden, 1997; Kraut et al., 2002; Wellman, Haase, Witte, & Hampton, 2001; Boase, Horrigan, Wellman, & Rainie, 2006). Therefore, if the elderly were facilitated in their use of the Internet (especially the use of SNSs) they may experience an improved sense of community and the networks around them (Sum, Mathews, Pourghasem, & Hughes, 2009). This can positively affect seniors' health, psychological well-being and life satisfaction, because they would be able to connect more easily with their family members and receive social support, particularly if they live far away from their family and acquaintances (i.e. in a retirement home).

Finally, another important aspect which has not yet been thoroughly examined in literature, is FIU in the workplace. The Internet is transforming the workplace, providing unprecedented access to unlimited information on a twenty-four-hours-a-day, seven-days-a-week basis (Anandarajan, Teo, & Simmers, 2014). Robust, two-way communication is available on demand, primarily limited only by the speed of connection; the richness and reach of the Internet have spread into every aspect of work and personal activities (Anandarajan, Teo, & Simmers, 2014; Evans & Wurster, 2000).

Having the Internet in the workplace is fundamental for communication and gathering information. The use of Internet in the workplace is a must for assuring the quality of communications and the enhancement of competing individuals. There is a common

belief amongst employers that workers who use the Internet for personal reasons during working hours are ‘goofing off’ (Coker, 2011). It is not uncommon for workers to be punished or even fired for personal Web usage at work. Young and Case (2004) found that 34% of 52 companies surveyed had disciplined or fired employees for workplace Internet leisure browsing (WILB). Research suggests that blocking or controlling Internet access in the workplace is viewed by many employees as a restraint impinging on their sense of control; indeed, these studies reported that while participants were aware that WILBing was wrong, they did not agree that it was devious behavior (Coker, 2011, 2013). Moreover, WILB could improve performance and balance working and living (Anandarajan, Paravastu, & Simmers, 2006).

According to Csikszentmihalyi (1975) and Csikszentmihalyi and LeFevre (1989), leisure activities are essential for emotional well-being and creative output. Furthermore, WILB argues that breaks at work enable employees to subconsciously reflect on ideas and project task elements, and found that this type of thoughtful reflection occurred more often in the workplace than during periods outside of the workplace (Coker, 2011). Coker (2011) hypothesized that if one controls the duration and overall amount of time spent WILBing, the frequency of WILB breaks could show a positive relationship with worker performance scores (Figure 9).

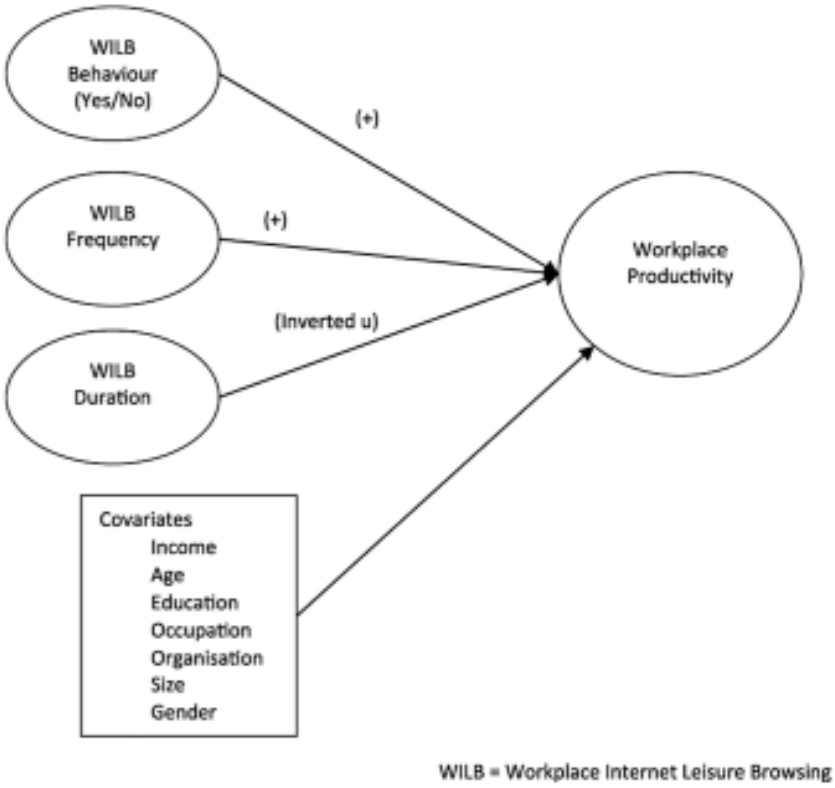

Figure 9: Working Internet Leisure Browsing Model (Coker, 2011)

According to Coker (2011, 2013), WILB behavior, frequency and duration during working time, positively affect workplace productivity, using as covariates: income, age, education, occupation, organization, organization size and gender. The results show that none of the covariates had any link with the WILB–productivity relationship. Furthermore, WILB had a positive impact on worker productivity. The percentage of WILB does not exceed more than around 12% of work time. By comparing the workers' productivity scores, it can be seen that those who do WILB scored 9% higher than those who do not WILB. In addition, the results suggest that shorter, more frequent episodes of WILBing have a more positive effect on productivity than less frequent longer episodes (Coker, 2011). Thus, the use of the Internet in the workplace could become functional, increase productivity and job performance, improve employees' well-being and affect job satisfaction, as long as the time spent online for recreational activities is not abused (Anandarajan, Teo, & Simmers, 2014; Coker, 2011, 2013; Galletta & Polak, 2003; Oravec, 2002).

2.1 Factors Related to Functional Internet Use: A Theoretical Perspective

An important point in studying factors related to FIU, is the analysis of the processes which lead us to consider the Internet (and its applications) as a culturally mediated artifact/tool, which allows people to reach different kinds of goals in their online and offline lives. To understand this role, it is fundamental to consider the processes deriving from Cultural Historical Activity Theory (CHAT).

According to Igira and Gregory (2009), CHAT (Igira & Gregory, 2009; Leontev, 1974; Luria, 1971, 1979; Vygotsky, 1978, 1981) or Activity Theory as it is also known (Engeström, 1990, 1999, 2009; Kaptelinin & Nardi, 1997), "[..] *offers a meta-theoretical philosophical basis and transdisciplinary perspective for analyzing diverse human practices in socio-cultural contexts and across multiple contexts and networks, as developmental processes in which individual, organizational, societal and cultural levels are dynamically inter-related* [..]" (p. 21). This theory is rooted in the Russian psychological tradition began by the developmental psychologist Vygotsky, together with his colleagues Luria and Leontev (e.g. Leontev, 1974; Luria, 1979; Vygotsky, 1978). Their arguments arose in response to the need to transcend prevailing understandings of psychology, child development and learning studies that were dominated by behaviorism (Skinner, 1976) on one hand, and psychological theories individually oriented rather than socioculturally oriented on the other hand, including Piaget's developmental theory (Piaget, 1962). CHAT is interdisciplinary, as it emphasizes the role of culture and society in organizing the proximal settings in which individual change is studied (Lecusay, Rossen, & Cole, 2008). The core of CHAT is characterized by three fundamental aspects:

1. ***The social origin of mind***: in Vygotsky's theory (1983) there a distinction between: lower mental functions (LMFs) and higher mental functions (HMFs). According to this theory, the LMFs (attention, sensation, perception and memory) develop into more sophisticated and effective mental processes/strategies (HMFs), through human interaction within the sociocultural environment.
2. ***The centrality of culture***: in the CHAT perspective, culture is a medium in which human beings live within an environment composed of and transformed

by the artifacts which evolved with the evolution of the species (Cole, 1998; Geertz, 1973, 1994; Ingold, 2000; Lecusay, Rossen, & Cole, 2008; Leontev, 1981; Luria, 1979; Sahlins, 2013). The basic function of these artifacts is to coordinate human beings with their physical world and each other, so culture is then seen as the medium of human development.

3. ***The artifact mediation***: an artifact can be knowledge or a tool that contributes to the subject's mediated action experience within the activity. In Vygotsky's view, and according to Yamagata-Lynch (2010) "[..] *mediated action is a concept to explain the semiotic process that enables human consciousness development through interaction with artifacts, tools, and social others in an environment and result in individuals to find new meanings in their world* [..]" (p.16). Mediated action involves and considers interaction between an individual, on the one hand, and a mediating artifact/tool and signs, on the other (Yamagata-Lynch, 2010).

The representation and the relationship of these processes have typically been showed using a triangle (Figure 10).

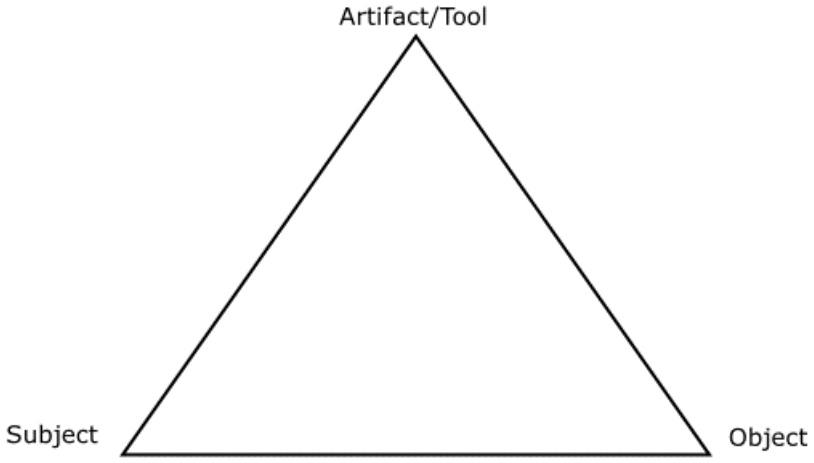

Figure 10: Mediated Action Model (Adapted from Vygotsky, 1978)

The triangle represents Vygotsky's basic mediated action relations (Cole & Engeström, 1993) between: subject (the human engaged in the activity), artifact/tool (e.g. knowledge or a specific material or tool) and the object (the goal of the activity). This schema of mediated action was Vygotsky's "[..] *attempt to explain human consciousness development in a manner that did not rely on dualistic stimulus–*

response associations as human activity is a process that involves artifacts that act as technical tools and signs that act as psychological tools available in the social environment [..]" (Yamagata-Lynch, 2010, p.16).

Furthermore, Leontev (1974, 1978, 1981) emphasized the dual nature of the fundamental aspects of human activity. The subject and object of an activity are in a mutual relationship. The object is modified by the action of the subject and by the tool that it is used. However, at the same time, the tool itself modifies the way of acting and the way of thinking of the person who uses it. In this regard, Leontev defines these tools that act as mediators in human activities as functional artifacts (and according to Kaptelinin (1996a, 1996b) and Zinchenko, 1995, ICT should be renamed as a functional organ), which are artifacts representing the physical and/or mental extensions of the body and human abilities (see Mazzoni, 2006). For instance, scissors allow a human to do something (cut) that he/she would not be able to do with his/her physical abilities, while his/her eyeglasses allow he/she to restore an inadequate human ability (sight) to an optimal state. In this regard, it is possible to think of the Internet (and the applications that characterize it) as a functional organ (Kaptelinin, 1996a, 1996b; Zinchenko, 1995) capable of exalting human ability so intuitively as to become a natural component that supports humans in their daily activities (Figure 11).

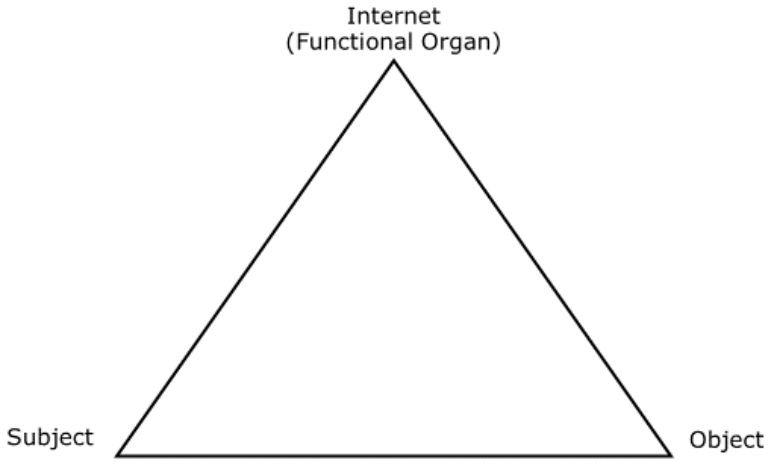

Figure 11: Mediated Action Model of the Internet as Functional Organ (Adapted from Vygotsky, 1978 and Leontev, 1974, 1978)

The functional organ concept is the positive pole of Internet use. The integration between being Online and Offline is an important part of the human being's

psychology. In some cases, it is possible to find a balance between these two aspects of human life; thus, the Internet is functional to working, to studying and to carrying out daily activities. Moreover, following the previous assumption and the theoretical background, it is fundamental to consider the functional side of Internet use. Indeed, as mentioned previously, the other goal of this research relies on the theoretical framework that allows scholars to consider the functional outcomes of the Internet. In this regard, it is possible to assume that Leontev's construct of functional artifacts (1974, 1978, 1981), and that of functional organs (Kaptelinin, 1996a, 1996b; Zinchenko, 1995) describe how a tool (the Internet) allows people to obtain better and more powerful performances that would not be attainable individually without that tool (e.g. sharing photos or documents with a number of people in different parts of the world at the same time), or to compensate for a lack (as for eyeglasses). At this point, a second question arises spontaneously: which factors lead to FIU and make the Internet a functional organ? Considering the previous theoretical assumption, the factors that have been considered in this research which are related to FIU are: Online Social-Support, Number of Online Contacts, Life Satisfaction and Job Satisfaction.

2.2 Online Social-Support and Number of Online Contacts

Following what Sherry Turkle points out in her 2012 TED Talk[3] and in her book (Turkle, 2012), it is possible to say that "we are still in a honeymoon with Web technologies". This implies that the optimal integration between: what we are, who we can define in online life, and who we are and what we can do outside the Internet in offline life, still needs an adaptation process that will probably evolve over time towards a progressive balance between these interrelated aspects of our being and acting.

As mentioned before, online-social-support could be a mediator affecting PIU. Despite this, it is also possible to investigate the positive aspects of online social-support which could be considered a predictor of FIU in different psychological processes and

[3] https://www.ted.com/talks/sherry_turkle_alone_together?language=it

behaviors (Cutrona & Suhr, 1992; LaRose, Eastin, & Gregg, 2001; Lin & Anol, 2008; Oh, Ozkaya, & LaRose, 2014; Silverman, 1999). Social-support, in this case, is considered the whole set of information which comes to a person through social interactions, and it transmits to the individual the feeling of being loved, esteemed, capable and part of a network characterized by reciprocal obligations (Cobb, 1976). Indeed, recent research has shown how the use of SNSs could lead to a greater level of well-being in people, and this could lead them to FIU. Valkenburg, Peter and Schouten (2006) have highlighted how the frequency of use of SNSs indirectly affected self-esteem and psychological well-being in a sample of adolescents. This frequency of use is affected by the frequency of positive feedback (e.g. "Likes" on Facebook or "Re-tweets" on Twitter) that they received on their SNS profiles. Moreover, in another study, analyzing the relationship between social capital (i.e. the potential benefits of creating and maintaining interpersonal relationships), self-esteem and the use of SNSs in American college students, it turned out that those who had low self-esteem are more driven to use Facebook to maintain social capital than those who had higher self-esteem (Steinfield, Ellison, & Lampe, 2008). For instance, people preferred online social-support (e.g. chatting, vocal messaging) to offline social-support (face-to-face interactions), because online social-support is characterized by less harsh and more focused responses and less negative judgment, anonymity, and more expressive and uninterrupted communication (Walther and Boyd, 2002). In addition, Frozzi and Mazzoni (2011) and Mazzoni and Iannone (2014), have shown that the same results found in the American college students are visible in Italian students making the transition from high school to university during emerging adulthood (see Tuomi-Gröhn & Engeström, 2003; Arnett, 2000, 2012, 2015; Arnett & Fishel, 2013; Arnett & Tanner, 2006). Regarding this point, according to Benvenuti, Mazzoni and Piobbico (2016), during the transition from school to university or from school/university to work, it is central to consider a person's number of online contacts (NOCs)[4]. Indeed,

[4] The number of online contacts is the total sum of the contacts, including acquaintances and friends, that a person has on his/her social network/s profile/s (e.g. Facebook, Instagram, Twitter, LinkedIn)

during these transitions, emerging adults face a gap between their background of knowledge and skills, and those required by the new activity system (e.g. the new organization in which a person will work). An activity system is conceptualized as a context characterized by subjects, a collective object and a community that develop together to achieve specific results by means of technological artifacts, norms and rules, and labor division (Engeström, 1990, 2000, 2009; Engeström, Miettinen, & Punamäki, 1999). Often, emerging adults do not have effective and appropriate information and knowledge to enable them to overcome the boundaries between these different activity systems (Wenger, 2000, 2010). Thus, new connections (such as NOCs) are very important for receiving and sharing relevant information (e.g. how to rent a room). From this point of view, the Internet, and consequently NOCs, could play a very relevant role as mediation tools in constructing a bridge between schools and university or schools and working environments (Benvenuti, Mazzoni, & Piobbico, 2016).

SNSs are also fundamental as a sort of pre-socialization with the new activity system (e.g. the context where people move to to attend university or a new company), by creating contacts with those people who are already a part of the new activity system and asking them for information. In this regard, SNSs might be considered an extension of the human ability to create and maintain relationships, particularly with people who are facing major transitions in different activity systems during the life period from adolescence to adulthood (Frozzi & Mazzoni, 2011). Moreover, SNSs could also be considered as virtual cultural artifacts that allow emerging adults to expand their zone of proximal development beyond the limits of space and time that characterize the physical presence, allowing them to expand their potential to build and maintain social capital, and to access and share information and knowledge (Vygotsky, 1978; Griffin & Cole, 1984; Frozzi & Mazzoni, 2011). For instance, according to Haythornthwaite (2002), latent ties are one of the most important characteristics of SNSs, being impossible in one's offline life: those connections that already technically exist but have not yet been socially activated.

Furthermore, a recent piece of research carried out with South Korean students, has shown how SNSs could help people to perceive greater online-social-support from

their contacts and to feel less alone, thus perceiving a higher level of psychological well-being (Lee, Noh, & Koo, 2013). In addition to these positive aspects, NOCs and online social-support enhance and improve some of the essential aspects that characterize human life, including sociality, the search for information and the management of various personal and family responsibilities (Benvenuti, Mazzoni, & Piobbico, 2016; Frozzi & Mazzoni, 2011; Mazzoni & Gaffuri, 2009a, 2009b).

2.3 Life satisfaction

Life satisfaction refers to an individual's cognitive assessment of satisfaction with their life circumstances (Erdogan, Bauer, Truxillo & Mansfield, 2012). Life satisfaction and other indicators of quality of life reflect a general evaluation of one's surroundings, an evaluation which may be positive or negative (Scheufele & Shah, 2000). Researchers usually liken life satisfaction to subjective happiness (Diener, Emmons, Larsen, & Griffin, 1985). Different studies suggest that affective temperament is related to subjective well-being (Brief, Butcher, George, & Link, 1993), a concept equivalent in meaning to life satisfaction.

In this study the concept of life satisfaction is strictly related to Internet use in two ways: (1) in maintaining and creating social connections (both in free time and at work), (2) in increasing and integrating job satisfaction (Mishra, Nielsen, Smyth, & Newman, 2014).

Indeed, according to Valenzuela, Parka and Kee (2009), as well as Kahneman and Krueger (2006), individuals' life satisfaction is partially determined by their social relations (both in online and offline life). In this regard, it is necessary to consider that high levels of happiness (and consequently of life satisfaction) are determined by social interaction. Ratings of happiness made by one's friends (Leary & Kowalski, 1990), a sociable and extraverted personality (Francis, 1998), frequent interpersonal communications that have positive affect (Diener, Sandvik & Payot, 1991), and the happiness of one's family members (Clore, Wyer, Dienes, Gasper, & Isbell, 2001) are all correlated to life satisfaction. Extending this rationale to SNSs and to the use of the Internet to maintain and extend social ties, it could be expected that people who actively participate in SNS interactions are more likely to experience connectedness and feel happier (Valkenburg, Peter, & Schouten, 2006). Furthermore, according to Ellison, Steinfield, and Lampe (2007), college students with lower levels of life satisfaction could seek to participate in online networks to communicate both with friends and strangers, in order to increase their personal well-being and, consequently, to reach and increase high levels of life satisfaction, and this would make them more likely to increase their FIU.

Following the second aspect, despite the growth in the number of studies on the topic, the job satisfaction–life satisfaction relationship remains one of the most enduring chicken-and-egg questions in social psychology (Mishra, Nielsen, Smyth, & Newman, 2014). According to Bowling et al. (2010, p.917) "[..] *The causal nature of the relationship between job satisfaction and [life satisfaction] has not been clearly established* [..]". Theoretically, the causal relationship between job satisfaction and life satisfaction could operate in either direction (Mishra, Nielsen, Smyth, & Newman, 2014). Following Lawler's (1971) valence-expectancy theory, in this study the relations run from life satisfaction to job satisfaction. According to this theory, high levels of non-work satisfaction engender strong feelings of internal control, which in turn lead to strong expectancy and instrumentality beliefs that the latter have been shown to be strong determinants of job satisfaction. Applying these findings to the WILB model described previously (Coker, 2011), it is possible to assume that the use of the Internet in the workplace could increase productivity and job performance and improve employees' life satisfaction and consequently lead to higher levels of FIU.

2.4 Job Satisfaction

The concept of job satisfaction has been defined in many ways (Judge & Klinger, 2008). However, the most-commonly used definition of job satisfaction is that given by Locke (1976), who described job satisfaction as "[..] *a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences* [..]" (p. 1304). In this regard, as the Internet is becoming a fundamental tool for work assignments[5], one of the most important parts of the job experience is the way in which people use the Internet in the workplace. According to Judge and Klinger (2008), job satisfaction is strongly and consistently related to subjective well-being. Researchers have found significant links between job satisfaction and life satisfaction (Judge & Klinger, 2008; Tait, Padgett, & Baldwin, 1989; Judge & Watanabe, 1993).

[5] http://www.pewInternet.org/2014/12/30/technologys-impact-on-workers/

As described previously, the Internet is changing the workplace (Anandarajan, Teo, & Simmers, 2014; Evans & Wurster, 2000), as having the Internet during working time is fundamental to communication, to gathering information between colleagues and to expanding companies' business. According to the WILB model (Coker, 2011), using the Internet in the workplace increases employees' productivity, improves their performance and balances their working and living. In addition to increasing employees' job performance, it also improves their well-being, their job satisfaction and consequently their life-satisfaction, but only if the workers do not abuse the time spent online for recreational activities (Anandarajan, Teo, & Simmers, 2014; Coker, 2011, 2013; Galletta & Polak, 2003; Oravec, 2002). In this regard, research conducted so far has shown a strong relationship between job satisfaction and life satisfaction (Iris & Barrett, 1972) and between job satisfaction and self-esteem (Judge, Erez, & Bono, 1998). Since job satisfaction is one of the most important predictors of life satisfaction and self-esteem, in a functional use of the Internet perspective, it is reasonable to think that high levels of job satisfaction predict high levels of FIU.

Given the significance that the Web assumes not only in leisure time, but also in the workplace, it is interesting to wonder whether what is observed for life satisfaction also applies to job satisfaction. Unfortunately, few studies (Askew, 2012, Galletta and Polak, 2003, Garrett and Danziger, 2008, Sai'd Ibrahim Al-Shuaibi et al., 2014) have analyzed this report, reaching contrasting results regarding the relationship between Internet use and job satisfaction, specifically on the functional side. Thus, considering these assumptions and considerations, a small part of this research will try to fill a gap in this research field which might clarify the relations between job satisfaction, life satisfaction and FIU.

2.5 Hypotheses Related to Functional Internet Use

In this paragraph those hypotheses directly concerning FIU will be described in order to answer the question: “when and under which conditions is the Internet functional for people?”. The aim of answering this question is twofold. First, half of this research aims to shed light on which conditions could lead people to experience positive consequences during their use of the Internet, that is, when the use of the Internet is more likely to be a sort of empowerment. Secondly, to verify these processes, conceptual and statistical models (Preacher & Hayes, 2004; Hayes, 2009; 2012; 2017) which investigate the moderating and mediating effects of the factors involved were theorized (Pietrantoni & Prati, 2008; Preacher & Hayes, 2008; Hayes, 2009; 2011, 2012; 2015; 2017a, 2017b; Hayes, Montoya, & Rockwood, 2017). Following these premises, the theoretical background and the previous theory description of involved factors, three hypotheses related to FIU have been theorized. Moreover, for each hypothesis both the conceptual and statistical diagram representing the total direct, indirect and conditional (direct and indirect) effects of the multiple moderated (H4) mediated (H5) and multiple moderated mediated (H6) variables have been made. Furthermore, as for the PIU hypothesis described before, the number of hours per day spent online refer to the total number of hours that a person is connected to the Internet each day. Finally, also in this case all hypotheses were applied and tested separately for each age group: adolescents, younger emerging adults, older emerging adults and adults.

The hypotheses related to FIU are the following:

H4. The hours per day spent online (X) affect FIU (Y), through the moderation of gender (M) and Age (W) (see Figure 12, 13)

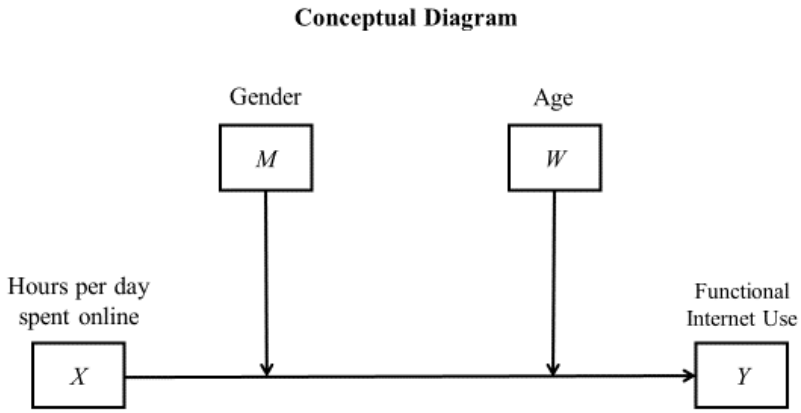

Figure 12: Graphical representation of H4 concerning the conceptual diagram of multiple moderation hypothesis (Model 2 - Heyes, 2017b)

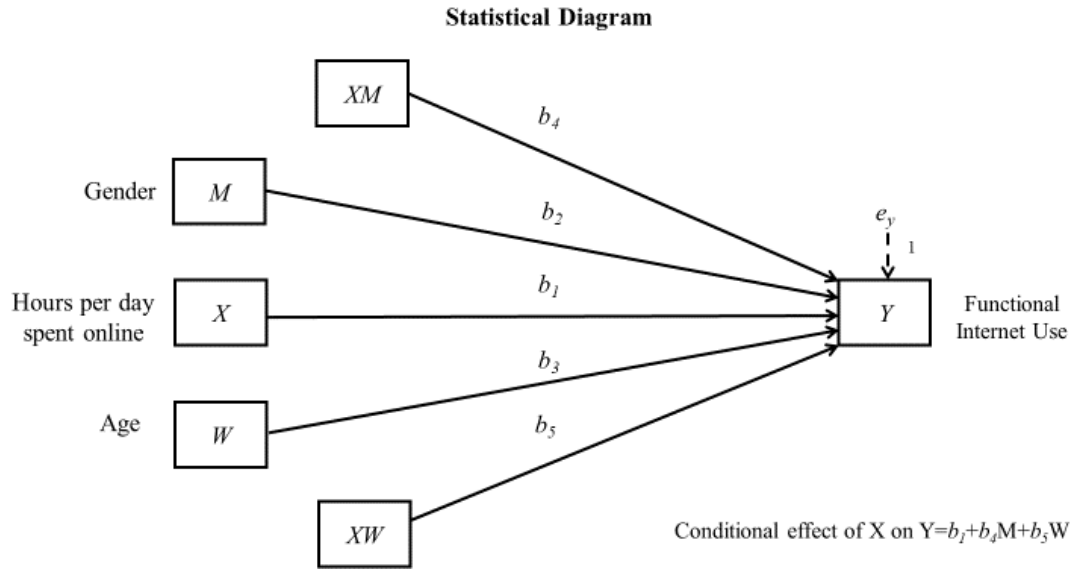

Figure 13: Graphical representation of H4 concerning the statistical diagram of multiple moderation hypothesis (Model 2 - Heyes, 2017b)

Considering the previously described literature concerning FIU (Mazzoni, Cannata & Baiocco, 2017; Benvenuti, Mazzoni & Piobbico, 2016), it is expected that: decreasing connection hours increases FIU, both for males and females in all age groups (adolescents, younger emerging adults, older emerging adults and adults). Additionally, gender differences in the relationships shown in the model are

considered. In this regard, there are not many studies in literature that underline gender differences in the positive use of the Internet. The few studies that have shown gender differences have shown that, although the males use the Internet for longer than female, they use it mainly to play video games, look for pornographic material and keep in touch with people (friends, acquaintances and unknown people). On the other hand, females tend to use it to keep in touch only with friends and for online shopping (Jackson, Ervin, Gardner, & Schmitt, 2001; Pujazon-Zazik & Park, 2010; Van Slyke, Comunale, & Belanger, 2002). In addition, research has shown that females use the Internet more qualitatively than males: for socializing and chatting to maintain the relationships that they have in their offline lives (Shaw & Gant, 2002; Thayer & Ray, 2006; Joiner et al., 2005; Wasserman & Richmond-Abbott, 2005). Thus, since literature in this regard it is not sufficiently broad, it is important to verify and consider gender differences in the use of the Internet and more specifically whether there are differences between males' and females' scores of FIU. Thus, based on the previous theoretical background and assumptions, it is expected that decreasing the hours per day spent online increases FIU both in males and females in all age groups. More specifically, it is expected that females spend less hours per day online than males and that they consequently have higher levels of FIU compared to males in all age groups.

The fifth hypothesis verifies the mediation role of the number of online contacts (Benvenuti, Mazzoni, & Piobbico, 2016; Frozzi & Mazzoni, 2011; Mazzoni & Iannone, 2014) related to online-social-support and FIU (Lee, Noh, & Koo, 2013; Steinfield, Ellison, & Lampe, 2008; Valkenburg, Peter, & Schouten, 2006) with the covariate of offline friends and offline acquaintances. In this regard, it is hypothesized that:

H5. *Online-social-support (X) affect FIU (Y) through the mediation of NOCs (M_i).* (see Figure 14 and 15).

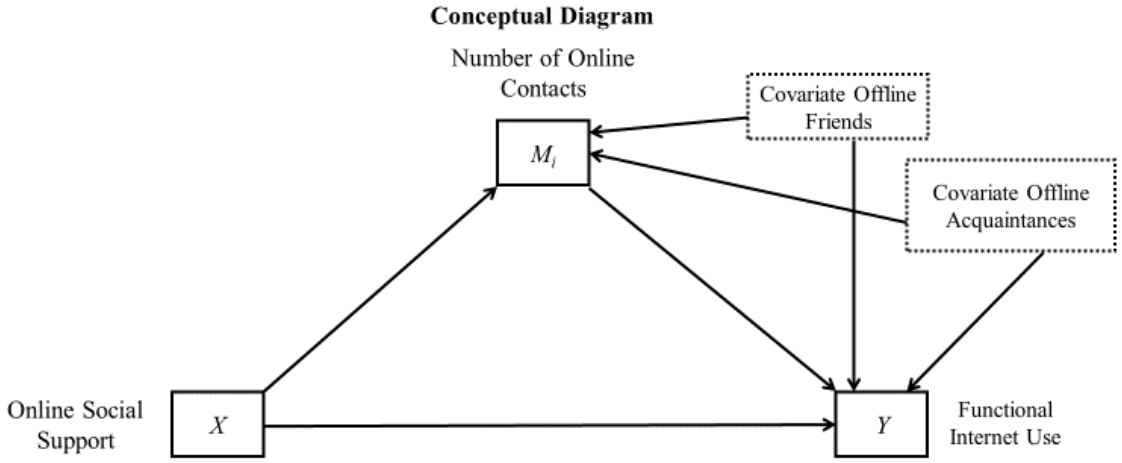

Figure 14: Graphical representation of H5 concerning the conceptual diagram of mediation hypothesis (Model 4 - Heyes, 2017b)

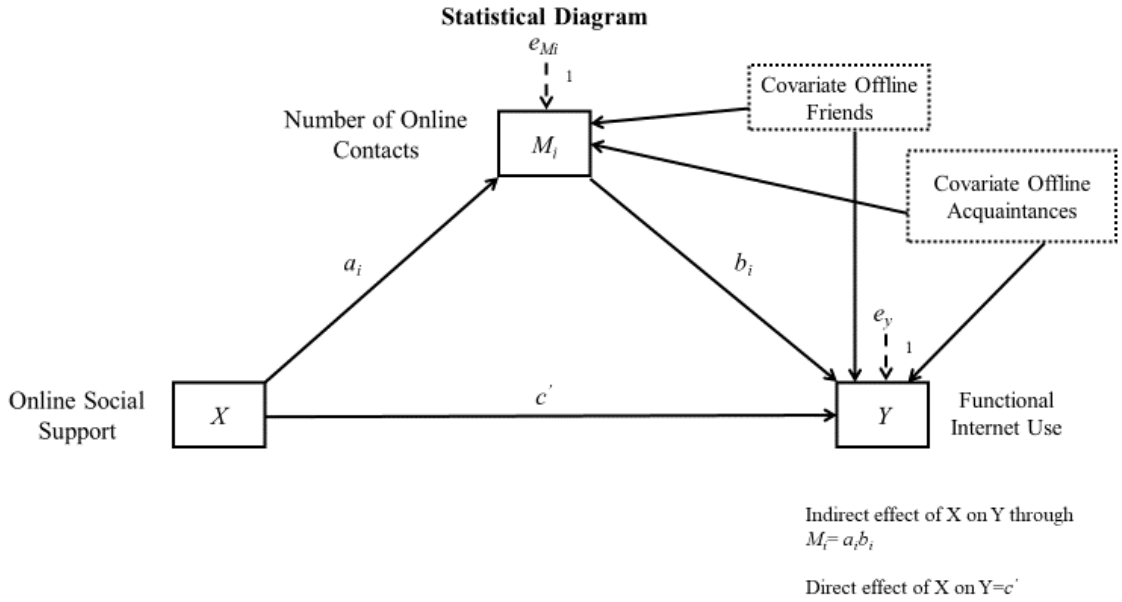

Figure 15: Graphical representation of H5 concerning the statistical diagram of mediation hypothesis (Model 4 - Heyes, 2017b)

In literature, online social-support is considered a FIU predictor by different studies (Cutrona & Suhr, 1992; LaRose, Eastin, & Gregg, 2001; Lin & Anol, 2008; Oh, Ozkaya, & LaRose, 2014; Silverman, 1999), in which high levels of online-social-support could predict a greater level of well-being in people, and consequently lead to FIU. However, there is a factor that could influence this relationship: NOCs. NOCs has a mediation role in the direct relationship online social-support-FIU, because it plays an important role in maintaining social capital (Steinfield, Ellison, & Lampe, 2008) and in helping people during the transition from school to university, from university to work or simply during an important life transition (Benvenuti, Mazzoni, & Piobbico, 2016; Frozzi & Mazzoni, 2011; Mazzoni & Iannone, 2014; Tuomi-Gröhn & Engeström, 2003; Arnett, 2000, 2012, 2015; Arnett & Fishel, 2013; Arnett & Tanner, 2006). Thus, it is expected that high levels of online-social-support (predictor) could lead to high levels of FIU (outcome) only when there is a high number of NOCs (mediator) in all age groups. Specifically, following on from previous literature, younger and older emerging adults are the groups with more transitions than the others (adolescent and adults), and it is therefore plausible to assume that they have high scores of online social-support, high NOCs and consequently high levels of FIU.

Considering the previous theoretical background of life satisfaction and job satisfaction, the last hypothesis of this research regards the role of life satisfaction, gender and age in the direct relationship job satisfaction-FIU:

H6. Job satisfaction (X) affects FIU (Y) through the mediation of life satisfaction (Mi) and the moderation of age (W) and gender (Z). (see Figures 16 and 17).

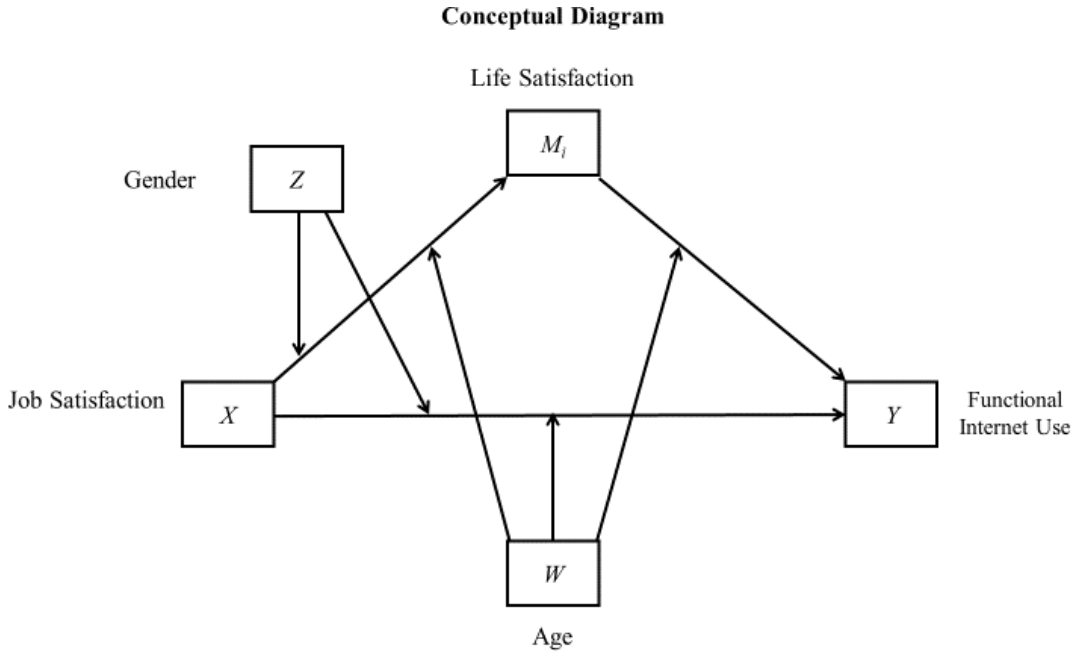

Figure 16: Graphical representation of H6 concerning the conceptual diagram of mediated moderated hypothesis (Model 63 - Heyes, 2017b)

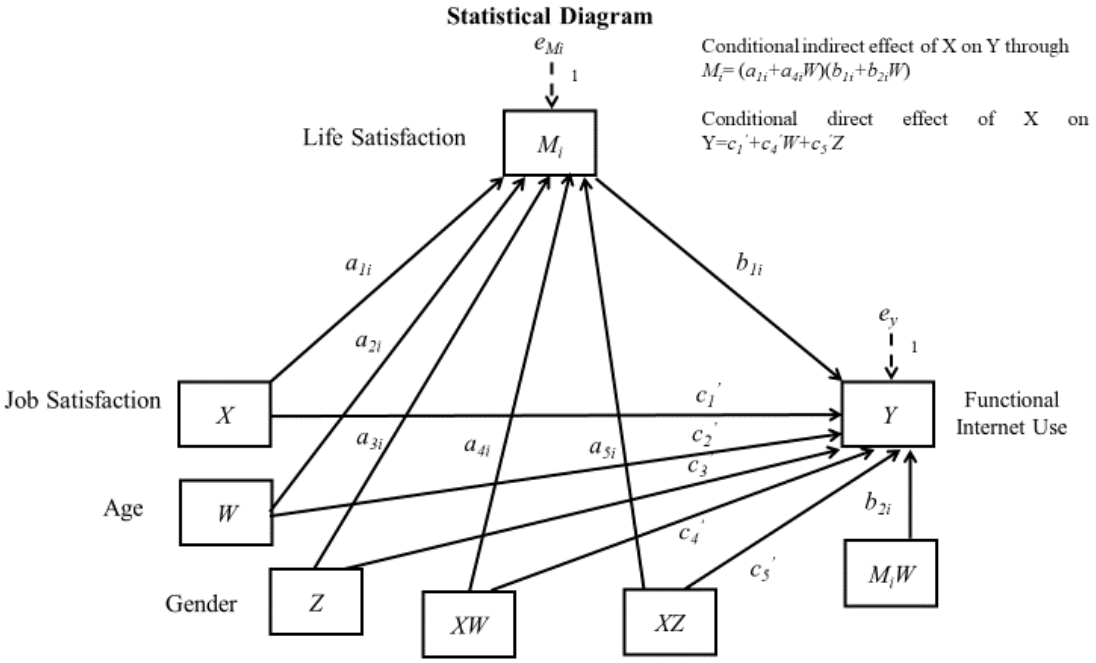

Figure 17: Graphical representation of H6 concerning the statistical diagram of mediated moderated hypothesis (Model 63 - Heyes, 2017b)

The theoretical framework shows that job satisfaction is a PIU predictor in which lower levels of job satisfaction increases the PIU scores (Davis, Flett, & Besser, 2002a; Galletta & Polak, 2003; Vitak, Crouse, & LaRose, 2011). In this regard, as mentioned before, literature shows an imbalance towards the problematic side of Internet use, compared to the functional one. In order to go further this hypothesis considers the functional side of the Web and it is reasonable to assume that high levels of job satisfaction affect FIU. This direct relationship is affected by one mediator: life satisfaction. In literature a number of studies have shown how high levels of job satisfaction could have an influence on life satisfaction (Adams, King, & King, 1996; Aydogdu & Asikgil, 2011; Judge & Watanabe, 1993; Kossek & Ozeki, 1998). Therefore, it is reasonable to assume that life satisfaction can act as a mediator in the job satisfaction-FIU relationship. Those who are satisfied with their job tend to be satisfied with their lives, and this can lead to greater FIU. In addition, gender differences in the relationships shown in the model are considered. In this regard, some studies in literature have highlighted gender differences in favor of males compared to females regarding the relationship job satisfaction-life satisfaction (Okpara, Squillace, & Erondu, 2005), while others have not found any differences

(Mason, 1995; Oshagbemi, 2000), or have shown differences in favor of females (Clark, 1997; Scandura & Lankau, 1997). Moreover, gender could also affect the relationship job satisfaction-FIU. In this case there are not many articles in literature that analyze this relationship and, as there is no agreement in literature regarding these relationships, it becomes important to investigate it. Considering this, it is expected that high levels of job satisfaction correspond to high levels of life satisfaction and this could lead to a greater FIU in males than females as they occupy more important positions than females[6], earn more per month than females[7], and do jobs that require more technical skills than females (e.g. using ICTs)[8].

Finally, an important role in this model is given to age. Age could affect three relationships in the model as a mediator: (1) job satisfaction-life satisfaction, (2) job satisfaction-FIU, (3) life satisfaction-FIU. The first relationship explains that adults with a stable and satisfactory job are more satisfied with their life (Erdogan, Bauer, Truxillo, & Mansfield, 2012; Judge, Piccolo, Podsakoff, Shaw, & Rich, 2010). The second and the third relationships, however, have not previously been analyzed in literature but is possible to assume that adults and older emerging adults will have higher levels of job satisfaction compared to adolescents and younger emerging adults (who still have more unstable job positions or are still studying) and this might lead to FIU. Moreover, it is also expected that both adults and older emerging adults will have higher levels of life satisfaction compared to the other groups and this too could lead to high levels of FIU. In summary, in this hypothesis a model that considers gender and age (moderators), and life satisfaction (mediator) is shown. Thus, according to Muller, Judd and Yzerbyt (2005), Edwards and Lambert (2007) and Heyes (2015), the considered factors present both mediation and moderation relations, so it is possible to talk about multiple moderated mediation.

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6 International Labour Organization - Employment distribution by status in employment (by sex)

7 International Labour Organization - Mean nominal monthly earnings of employees by sex and economic activity (Local currency)

8 International Labour Organization - Employment by sex and age (Thousands)

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this research is to investigate the impact of Internet use in people's lives, both in problematic and functional ways. The study investigates whether, when and under which conditions, certain factors (self-esteem, self-control, online social-support, offline social-support, mindfulness, cognitive absorption) lead to PIU, and accordingly to an inverse instrumentality situation of Internet use, whilst other factors (online social-support, NOCs, life satisfaction, job satisfaction) lead to FIU and consequently make the Internet a functional organ.

To achieve this aim, a cross-sectional study was proposed (Shaughnessy, Zechmeister & Zechmeister, 2012) based on the compilation of a self-report questionnaire via the Web made with Qualtrics[9]. After the approval of the ALMA MATER STUDIORUM – University of Bologna bioethics committee[10], a website was made for the research (with Google sites) called "Online and Offline life: are you Connected or Disconnected?"[11], where anyone wishing to fill in the questionnaire was able to read the informed consent and then proceed to completing the questionnaire.

The questionnaire's distribution took place at three different times online, corresponding to the three academic years of the Ph.D.[12], and are based on the penetration of SNSs' monthly use in Italy[13] [14]. Moreover, campaigns were broadcast on SNSs targeting: gender and age considering the selected sample age groups (adolescents, younger emerging adults, older emerging adults and adults), using Web pages created specifically for this research on the main SNSs: Facebook[15], YouTube[16],

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9 https://www.qualtrics.com/it/

10 http://www.unibo.it/it/ricerca/strutture-di-ricerca/comitati-etici-1/comitato-di-bioetica

11 https://sites.google.com/site/onlineliferesearch/home

12 The three academic years of the ALMA MATER STUDIORUM – University of Bologna, Department of Psychology - Psychological Sciences' Ph. D course are: I - 2014/2015, II - 2015/2016, III - 2016/2017 and goes from November to July.

13 https://www.statista.com/statistics/312943/social-network-penetration-in-italy/

14 https://www.statista.com/statistics/567335/predicted-social-network-user-penetration-rate-in-italy/

15 https://www.facebook.com/Online-e-Offline-Life-415141538621930/

Google+[17]. These pages eased the data collection of homogeneous samples for the four ages groups considered. Furthermore, in order to maximize the dissemination of the questionnaire on SNSs, the links of Facebook, Goggle +, Twitter, LinkedIn, YouTube and Blogger were posted on the footer of the research's website to give the participants the opportunity to share the questionnaire with their contacts. In this regard, SNSs created specifically for interaction were considered, while those with other purposes (such as sharing photos, like Instagram or Pinterest) were excluded. Furthermore, to increase the possibility of collecting data for adolescents' sample, the questionnaire was also distributed in a high school in Cesena and in two high schools in Bologna. For the adults' sample, a number meetings with the parents of children attending elementary schools were organized during which the purpose and the importance of this research were explained and the link to complete the questionnaire was subsequently sent to them.

Finally, this research is part of a wider project in which data are being collected in different countries in Europe. For now, the data have been collected in Portugal.

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[16] https://www.youtube.com/watch?v=P3T4NFFocwk

[17] https://plus.google.com/u/0/106612771804375987940

3.1 Sample Description

The sample description follows the developmental phases and the division of the samples between the age groups considered in this study (adolescents, younger emerging adults, older emerging adults, adults):

1. ***Adolescents***. Adolescence is the transition between childhood and adulthood and it is characterized by biological and psychological changes (Berk, 2014). It is important to underline that the duration of adolescence, its demands and pressures vary substantially between cultures (Berk, 2014). Most tribal and village societies have only a brief intervening phase between childhood and the full assumption of an adult role (Weisfield, 1997). On the other hand, young people in industrialized countries face a prolonged dependence on their parents and the postponement of sexual gratification while they prepare for a productive working life. As a result, adolescence is greatly extended. In this regard, according to Berk (2014), it is possible to divide this period in three phases:
    a) *Early Adolescence* (11-12 to 14 years): this is a period of rapid pubertal change;
    b) *Middle Adolescence* (14 to 16 years): pubertal changes are now almost complete;
    c) *Late Adolescence* (16 to 18 years): the young person achieves their full adult appearance and begins to take on more adult roles.

    Considering this perspective and our previous considerations, despite this division, this study examines a unique group of adolescents from 13 -14 to 17 years of age, placing more importance on social and psychological changes for two reasons. Firstly, in Italy at 13-14 years, adolescents start high school[18] and begin to have close relationships with their peer groups. These relationships greatly influence the

[18] http://www.istruzione.it/urp/ordinamento_scolastico.shtml

dynamics governing the use of the Internet and its applications (both in problematic and functional ways) between males and females adolescents. Secondly, 17 years old is the year before adolescents become legal adults according to Italian law[19] and, especially within the peer group, adolescents consider reaching 18 years as a kind of rite of passage and a milestone towards adulthood. It was therefore decided to include the age of 18 in the next age group.

2. ***Emerging Adults***. Emerging adulthood is "[..] *a time for looking back and looking forward, from the liminal vantage point of dwelling in-between defined life roles* [..]" (Trible, 2015 p. 3). No longer a child, but not yet fully adult, the emerging adult goes through a range of emotions and experiences. Jeffrey Arnett (2004, 2006, 2012) first proposed the theory of emerging adulthood that covers the age range from 18 to 29 with a focus on ages 18 to 25. Arnett developed a theory of emerging adulthood centering around five characteristic features (Arnett, 2004, 2006, 2012; Reifman Arnett, & Colwell, 2007) which describe emerging adulthood as:
    a) *The Age of Identity Exploration*: young people are deciding who they are and what they want out of work, school and love;
    b) *The Age of Instability*: the post-high school years are marked by repeated residence changes (especially in the USA), as young people either go to university or live with friends or a romantic partner. For most, frequent moves end as families and careers are established around the age of 30 (in Italy around the age of 34[20]);
    c) *The Self-Focused Age*: freed of the parent- and society-directed routine of school, young people try to decide what they want to do, where they want to go and who they want to be with before these choices become limited by the constraints of marriage, children and a career;

[19] http://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:Legge:1975-03-08;39
[20] https://www.istat.it/it/giovani/lavoro

d) *The Age of Feeling In-Between*: many emerging adults say they are taking responsibility for themselves, but still do not completely feel like an adult;

e) *The Age of Possibilities*: most emerging adults believe they have good chances of living "better than their parents did," and even if their parents are divorced, they believe they will find a lifelong soul mate.

All these features begin to develop before emerging adulthood and continue to develop afterwards, but it is during emerging adulthood that they reach their peak (Reifman Arnett, & Colwell, 2007). Furthermore, it is important to note that "[..] *emerging adulthood is not a universal period of human development but a period that exists under certain conditions that have occurred only quite recently and only in some cultures* [..]" (Arnett, 2012 p.405). Thus, considering this perspective, what is mainly required for emerging adulthood to exist is a relatively high median age of entering marriage and parenthood, specifically in the late twenties or later. In this regard, according to Arnett (2012), postponing marriage and parenthood until the late twenties allows the late teenage years and most of the twenties to be devoted to other activities, such as identity exploration. Therefore, emerging adults today mainly exist in developed countries, including those in Europe, the United States, Canada, Australia and New Zealand, along with Asian countries such as Japan and South Korea (Arnett, 2011). Europe is the region where emerging adulthood is longest and most leisurely[21]. The median age of entering into marriage and parenthood is around 30 in most European countries[22] (Douglass, 2007). In Europe, governments pay for tertiary education, assist young people in finding jobs and provide unemployment benefit for those who are unable to find work (Arnett, 2007, 2012). People in European societies make the most of these advantages and are able to prolong the phase of emerging adulthood. In view of the length of the period of emerging adulthood and of the rapidity of change, in the recent years two distinct groups have been defined: (1) younger emerging adults

[21] http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_and_social_conditions

[22] http://ec.europa.eu/eurostat/statistics-explained/index.php/Marriage_and_birth_statistics_-_new_ways_of_living_together_in_the_EU

(18-24) and older emerging adults (25-29). The younger emerging adults are likely to feel more in-between than those who are a bit older and feel closer to adulthood (Arnett, 2015; Arnett & Schwab, 2012; Steinreich & Salerno, 2015). It is important to consider that this division is not so clear in literature. Some scholars consider younger emerging adults to be between 21 and 24 years old, and the older between 25 and 29 years old (Steinreich & Salerno, 2015), while others consider the younger group to range from 18 to 21 years and the older from 26 to 29 years, without defining the range between 22 and 25 years (Arnett & Schwab, 2012).

Following what has been described so far, this study considers younger emerging adults as being between 18 and 24 years old, because this is the period of life with major transitions and changes for Italian boys and girls[23]. Moreover, when they are 18 Italian boys and girls reach legal adulthood, and they finish high school with the consequent transition to university or to the world of work. This age range finishes with the end of the three-year degree for the Italian school system[24]. On the other hand, the older emerging adults in this research range from 25 to 29 years old, the period in which university studies have ended and older emerging adults start looking for a job[25]. Moreover, up to 29 years, it is easier to find work in Italy because the government favors employment[26]. From 30 on, all participants are considered adults.

3. ***Adults***. The definition of an adult in literature is not unanimous, indeed "[..] *in the past decades, many studies have examined what young people in various countries view as the key markers of the transition to adulthood* [..]" (Arnett, 2012, p.459). The results from studies' conducted in countries including the United States (Arnett, 1998; 2003; Nelson, 2003), Europe (Corijn & Klijzing, 2013), Argentina (Facio & Micocci, 2003), the United Kingdom (Horowitz & Bromnick, 2007),

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[23] http://www.istat.it/it/files/2014/09/Generazioni-a-confronto.pdf

[24] http://hubmiur.pubblica.istruzione.it/web/universita/offerta-formativa/classi-di-laurea

[25] https://www.istat.it/it/files/2017/10/Focus_giovani-mercato-del-lavoro_2017.pdf?title=I+giovani+nel+mercato+del+lavoro+-+27%2Fott%2F2017+-+Testo+integrale.pdf

[26] https://archivio.pubblica.istruzione.it/mpi/progettoscuola/allegati/legge53_03.pdf

Israel (Mayseless & Scharf, 2003) and China (Nelson, Badger, & Wu, 2004) have been remarkable similar. In these studies, young people from their early teens to their late twenties agreed that the most important markers of the transition to adulthood are (1) accepting responsibility for oneself, (2) making independent decisions, and (3) becoming financially independent, in that order. These three criteria rank highest not just across cultures and nations but across age groups, ethnic groups, and social classes (Arnett, 2001, 2003, 2011). It is important to note the similarity among the top criteria: all three are characterized by individualism; all three thus emphasize the importance of learning to stand alone as a self-sufficient person without relying on anyone else (Arnett, 1998). The criteria for adulthood favored by emerging adults in developed countries reflect the individualistic values of those societies (Douglass, 2005; Harkness, Super, & Tijen, 2000). Moreover, it is necessary to consider that in addition to the top criteria for adulthood that have been found across cultures, the above-mentioned studies also found distinctive cultural criteria (Arnett, 2012). Regarding this point, many Italians who are well into their 30s still live with their parents, most have a stable job, are married and (most of those who are married) have at least one child.

Following the previous conceptualizations, the following figure (fig. 18) describes the sample used in this research, divided by age and gender. The total number of respondents are 2,130 (Mean= 27.03; SD= 12.2) of which 1,372 are females (64.4%) and 758 are males (35.6%).

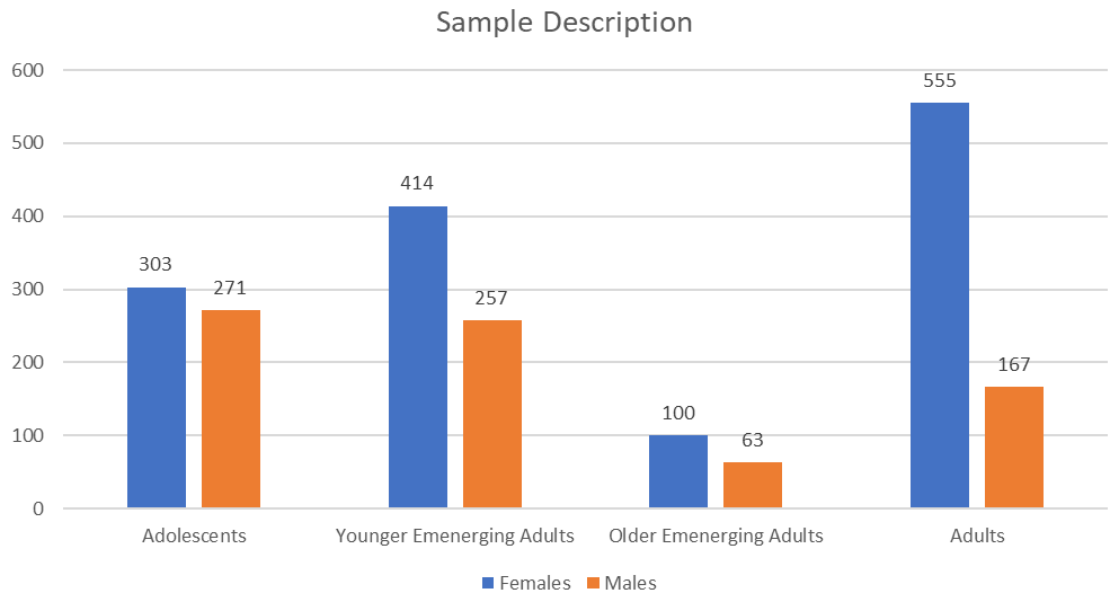

Figure 18: Sample description by age and gender within each sample group

The sample is characterized by 574 (26.9%) adolescents (Mean= 15.74, SD= 1.15), of which 303 are females (60%) and 271 are males (47.2%); 671 Younger emerging adults (31.5%; Mean= 20.3, SD= 2.02) - 414 (61.7%) females and 257 males (38.3%); 163 older emerging adults (7.7%; Mean= 26.7, SD= 1.36) - 100 females (61.3%) and 63 males (38.7%). Finally, there are 722 adults (33.9%; Mean= 42.3, SD= 7.47) of which 555 (76.9%) are females and 167 are males (23.1%).

3.2 Measures

The questionnaire includes items related to the dimensions looked at in this research, divided in sections that concern respectively:

a) *Demographic measures*,
b) *Measures of Problematic Internet Use*,
c) *Measures of Functional Internet Use*,
d) *Measures Concerning the Use of the Internet*,
e) *Measures Concerning the Use of Devices*,
f) *Measures Concerning the Use of Social Networking Sites and Web Applications*,
g) *Measure concerning the Number of Online Contacts*.

The proposed order is not that of the questionnaire's contents (see appendix A), but it follows the logical order of the theoretical background described previously. The order of the scales in the questionnaire follows the psychometric rules for constructing a questionnaire (Cohen, Swerdlik, & Phillips, 1996; Embretson, 2013; Feltham & Smith,1993; Hambleton, Merenda, & Spielberger, 2004; Irvine, & Kyllonen, 2013). Furthermore, the questionnaire was made after the careful evaluation of existing instruments in available literature, and was designed in order to consider a broad number of variables. The main criteria for the choice of the scales were: their validity (Cronbach, 1946, 1988; Cronbach & Meehl, 1955; Shepard, 1993), their reliability (Cronbach, 1947, 1949, 1951; Cronbach, Rajaratnam, & Gleser, 1963; Gliem & Gliem, 2003; Santos, 1999; Tavakol & Dennick, 2011) and the theoretical background consistent with the research hypotheses.

3.2.1 Demographic Measures

Since demographic measures are fundamental to understanding the use of the Internet, both in problematic and functional ways (Baiocco, Benvenuti, Cannata, Fossi, Mazzoni, & Zanazzi, 2015; Benvenuti, Mazzoni, & Piobbico, 2016), respondents were asked to answer questions regarding: their gender, age, nationality, country of residence, region of residence, province of residence, their job position, educational qualifications, and relationship status. For all age groups the choices were listed for

both educational qualifications [middle school diploma, third year high school qualification, high school diploma, three-year degree, master's degree, post-graduate education (PhD, Post-Doc)] and job position (intellectual, scientific and highly specialized job, employee, owner of a business, craftsman, farmer, army employee, student, trainee/intern, unemployed). All job positions are taken from the ISFOL[27] professions list, which is the agency of the Italian *Ministry of Labor and Social Policies*[28] which deals with classifications and the understanding of the nature and evolution of professions in the Italian world of work. Furthermore, regarding the question of current relationship status, the available choices were diversified for adolescents and younger emerging adults, older adults and adults. Since most adolescents under 18 years old in Italy and Europe are not married[29] [30], only three choices of relationship status were left, reflecting the usual relationship behavior during adolescence[31] [32]: (1) single, (2) I have a relationship that I consider important and (3) I have more than one relationship. On the other hand, for the other age groups it was decided to leave the most common relationship statuses in Italy[33] and Europe[34]: single, married without children, married with at least one child, divorced, widowed, engaged/I live with someone, I have a relationship that I consider important but we do not live together, I have more than one relationship.

As this research falls within a larger study, not all the collected measures and dimensions (e.g. measures regarding nationality, region of residence, province of residence, job position, educational qualifications, and relationship status) will be

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[27] http://fabbisogni.isfol.it/professioni

[28] http://www.lavoro.gov.it/Pagine/default.aspx

[29] https://www.istat.it/it/files/2016/11/matrimoni-separazioni-divorzi-2015.pdf?title=Matrimoni%2C+separazioni+e+divorzi+-+14%2Fnov%2F2016+-+Testo+integrale+e+nota+metodologica.pdf

[30] http://ec.europa.eu/eurostat/statistics-explained/index.php/Marriage_and_divorce_statistics

[31] http://www.pewInternet.org/2015/10/01/basics-of-teen-romantic-relationships/

[32] http://www.pewInternet.org/2015/10/01/teens-technology-and-romantic-relationships/

[33] https://www.istat.it/it/files/2016/05/Ra2016.pdf

[34] http://ec.europa.eu/eurostat/statistics-explained/index.php/People_in_the_EU_%E2%80%93_statistics_on_household_and_family_structures

considered in the following sections, but only those related to the specific hypothesis previously formulated.

3.2.2 Measures of Problematic Internet Use

The measures described in this section are those referring to the factors described in the so-called PIU models, which explain when and in which dynamics the Internet can become problematic and lead to an inverse instrumentality. These measures are related to the hypotheses referring to PIU: H1 (multiple moderation), H2 and H3 (multiple moderated mediation). Despite some of the scales having different subscales, for the aim of this research the general measure of the scales was preferred. Indeed, the research goals were not specifically related to the concepts expressed in the subscales which were considered part of the total concept (such as PIU or FIU).

Problematic Internet Use (PIU)

In order to measure PIU the Generalized Problematic Internet Use Scale 2 (GPIU2) (Caplan, 2010), validated in Italian by Fioravanti, Primi and Casale (2013) which consists of 15 items measured on a 7-point Likert scale (1= strongly disagree, 4= neutral, 7= strongly agree) was used. This tool is characterized by 4 subscales which differentiate five sub-dimensions: POSI[35] (e.g. “I prefer online social interaction over face-to-face communication”), negative outcomes (e.g. “My Internet use has made it difficult for me to manage my life”), mood regulation (e.g. “I have used the Internet to talk with others when I was feeling isolated”) and deficient self-regulation which is composed of compulsive use (e.g. “I have difficulty controlling the amount of time I spend online”) and cognitive preoccupation (e.g. “When I haven’t been online for some time, I become preoccupied with the thought of going online”).

[35] Preference for Online Social Interaction

Self-Esteem

Self-Esteem is assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965), validated in Italian by Prezza, Trombaccia and Armento (1997). Well-known in literature, it is a 4-point Likert scale from 1= strongly agree to 4= strongly disagree, comprising 10 items.

Self-Control

For self-control the Brief Self-Control Scale edited by Tangey, Baumeister, and Boone (2004), as re-validated by Maloney, Grawitch, and Barber (2012) was used. Through exploratory and confirmatory factor analysis, the two authors identified two different dimensions of self-control: restraint and impulsivity. According to the scholars, these two dimensions have different impacts on the outcomes of self-control. Moreover, through the study of Maloney and colleagues it was possible to select from the 13 items on the scale those which are most predictive of self-control (see appendix A) and which are used in this study. The items are built as 5-point Likert scale (1= not at all, 5= very much).

Online and Offline Social-Support

For online and offline social-support the Offline Social-Support Scale created by Wang and Wang (2013) for their study, adapting the tool used in a previous study by Leung and Lee (2005), was used. Participants rate their accordance with the general statement "How often is each of the following kinds of support available to you if you need it?" for each kind of support specified from 1= never to 5= all the time. There are 11 items, although Leung and Lee (2005) divided them into 3 subscales: emotional and informational, positive social interaction and affectionate. Instead, online social-support is evaluated using the Online Social-Support Scale (Wang and Wang, 2013, adapted from Leung and Lee, 2005). As for the Offline Social-Support Scale the Likert scale consists of 11 items and it is built in 5 points ranging from 1= never to 5= all the time. It differs from the Offline version because it indicates that support should come from the online environment.

Mindfulness

Measures of mindfulness are complex as various measurements do not assess the same concept (Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006). From the different possibilities, the Mindfulness Attention Awareness Scale (MAAS) was chosen. This questionnaire was created by Brown and Ryan (2003) and validated by MacKillop and Anderson (2007). The authors define mindfulness as a state of objective experiential awareness. The MAAS does not include other dimensions of mindfulness often explored by other scales, "[..] *like the non-judgmental, accepting attitude, dis-identification, insightful understanding, or an attitude of having no specific goals* [..]" (Walach et al., 2006, p. 1545). It consists of a mono-dimensional score, with 15 items measured on a 6-point Likert system from 1= almost always to 6= almost never.

Cognitive Absorption

The Cognitive Absorption Scale **(**Agarwal & Karahanna, 2000) is used as measure of Internet engagement. The authors define the construct, the theoretical background of which relies on the notions of flow and cognitive engagement, as "[..] *a state of deep involvement with software* [..]" (Agarwal & Karahanna, 2000, p. 673). The scale is formed by 20 items measured on a 7-point Likert scale from 1=strongly disagree to 7= strongly agree. The scale is explicitly designed for the web and comprises 5 sub-dimensions named as temporal dissociation, focused immersion, heightened enjoyment, control and curiosity.

3.2.3 Measures of Functional Internet Use

The measures described below are those that refer to the factors described in the so-called FIU models, which explain when and under which conditions and relationships the Internet can become functional and operate as a functional organ. Indeed, these measures are related to hypotheses referring to FIU: H4 (multiple moderation), H5 (mediation) and H6 (multiple moderated mediation).

Functional Internet Use (FIU)

As mentioned before, since the balance in literature has shifted to the problematic side of Internet use, there are no tools to measure purely the positive aspects of FIU. In this regard, for this research a brief scale to measure FIU was specifically created. The scale was named Web Useful and is composed of 4 items: (1) "being connected increases my ability to reach certain goals", (2) "being connected improves my productivity", (3) "being connected is useful for carrying out my activities", (4) "being connected improves my performances". It is measured on a 7-point Likert scale from 1= strongly disagree to 7= strongly agree. The scale had not previously been validated, and for the moment does not consider number aspects which would be interesting in a scale that measures FIU (e.g. emotional aspects), that could be developed in future research.

Online Social-support

In this case too, online social-support is evaluated using the Online Social-support Scale (Wang and Wang, 2013, adapted from Leung and Lee, 2005). As for the Offline Social-support Scale, the Likert scale consists of 11 items and it is of 5 points from 1= never to 5= all the time. The questions that make up the scale are the same as those of the offline version, but the difference is in the introduction to the items which asks the reader to consider the online environment: "In your online life, if you need it, how often do you have it available"?

Number of Online Contacts (NOCs)

Three questions in the questionnaire concern the number of online contacts: (1) refers to contacts (i.e. all those you have on your online profiles), (2) refers to acquaintances (i.e. those with whom you do not interact regularly, online OR in everyday life) and (3) refers to friends (i.e. those with whom you usually interact, beyond simply knowing them, online and in everyday life). The three categories have different limits in this research: 20,000 for online contacts, 10,000 for acquaintances and 2,000 for friends. To create the unique dimension of NOCs (number of online contacts are the total sum of the contacts, including acquaintances and friends, that a person has on his/her social network/s profile/s) it was decided to set a limit of 20,000 as the maximum number in the answer that refers to contacts (in general). This is because the number of contacts on the most used social networks has a limit (e.g. Facebook 5,000 friends, LinkedIn 30,000 connections[36]), while others do not have a limit (e.g. Instagram, YouTube, Google +). Moreover, this study refers to a large audience that is unlikely to exceed this number of contacts (e.g. on Facebook the number of average contacts is estimated to be below 400[37]), and does not refer to a specific target which could be an influencer (e.g. famous singers, fashion bloggers, etc.).

Life Satisfaction

Since life satisfaction refers to an individual's cognitive assessment of satisfaction with their life circumstances (Erdogan, Bauer, Truxillo & Mansfield, 2012), researchers often liken life satisfaction to subjective happiness (Diener, Emmons, Larsen, & Griffin, 1985). For this research, the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985), consisting of 5 items (5-point Likert scale from 1= strongly disagree to 5= strongly agree), was chosen. As show in appendix A, all items are framed in a positive way (e.g. "In general my life is close to my ideal").

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[36] https://www.linkedin.com/help/linkedin/answer/71113/limite-della-dimensione-della-rete?lang=it

[37] http://www.ilsole24ore.com/art/tecnologie/2013-04-25/facebook-amicizia-contagiosa-quanti-224038.shtml?uuid=AbChhdqH

Job Satisfaction

For measuring job satisfaction, in line with Fields' manual (2002), which includes the most commonly used tools (and their reliability and validity) for job satisfaction, the Brayfield and Rothe (1951) job satisfaction scale, revalidated by Judge, Locke, Durham and Kluger (1998) was chosen. The choice was essentially based on the general oriented approach of the scale, but also on its brevity and good scores in validity and reliability. It is a 5-item 10-point Likert scale ranging from 1= strongly disagree, to 10= strongly agree. As the intention at the beginning of the study was to also collect data from students, the scale's items include both job and study satisfaction (e.g. "I feel quite happy with my job/my studies").

3.2.4 Measures Concerning the Use of Devices

Internet access in Italy[38] and in Europe[39] has spread very rapidly over the last few years. Moreover, in recent times, connecting to Internet has been facilitated thanks to the abolition of roaming charges throughout all European Union member states[40]. This has also encouraged the mass diffusion of smartphones and tablets, especially among teenagers, but also among adults. It is therefore becoming fundamental, also in light of what has been previously in reference to the available literature, to understand which devices people use to connect in order to gain a better understanding of the dynamics underlying the use of the Internet. In this regard, questions referring to the use of devices (computers, tablets, smartphones, consoles and smart TVs) during the day have been added (e.g. "Indicate how many hours a day[41] you are connected with a tablet").

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[38] https://www.istat.it/it/files/2014/12/Cittadini_e_nuove_tecnologie_anno-2014.pdf?title=Cittadini+e+nuove+tecnologie+-+18%2Fdic%2F2014+-+Testo+integrale.pdf

[39] http://ec.europa.eu/eurostat/statistics-explained/index.php/Internet_access_and_use_statistics_-_households_and_individuals

[40] https://ec.europa.eu/digital-single-market/en/news/end-roaming-charges-travellers-eu-2017

[41] Per day means 24 hours

3.2.5 Measures Concerning the Use of Social Networking Sites and Web Applications

Questions regarding the use of SNSs and web applications were also included in the questionnaire. Participants had to indicate, in order, the five web tools that they used most often during the day from the following list: Twitter, LinkedIn, Instagram, Myspace, Google+, YouTube, WhatsApp, Skype, Blog, Wiki, E-mail, Web Forum, Online Games. Moreover, since the goal of the research is to investigate in which situations the Internet could become either problematic or functional, participants were asked to indicate (from the web tools chosen) how long each web tool is generally used per day, and whether it is used during working time or free time. It is important to highlight that the list includes the most widespread SNSs and tools in 2014 (the first year of the study), which do not include some Apps that have become more popular in recent years (e.g. Snapchat, Tinder).

3.2.6 Measures Concerning Time Connection and Interaction

Questions regarding the total amount of time connection and interaction were also included. The participants were asked to indicate how many hours they are available to interact online using any technological tool (e.g. computer, tablet, smartphone) over the course of a day. In addition, questions regarding interaction with their contacts were included. Participants were asked how often in a day (never or almost never, 2/3 times per day, 6/7 times per day, at least every hour, several times within an hour) they check whether there are updates/feedback/messages on their online profiles.

3.2.7 The Online and Offline Life Questionnaire

The questionnaire was created taking into account the previously outlined theoretical background and was divided into two different but complementary sections which respectively concern offline life and online life. Although the Perceived Likeability scale (Reysen, 2005) was included in the questionnaire, it was not used as it lies outside the scope of this study. Furthermore, as explained above, two versions of the questionnaire were produced, one for younger emerging adults, older emerging adults and adults, and one for adolescents. If a participant indicated that he/she was under 18, he/she was automatically redirected to the adolescents' version. The scales of the

adolescents' version are the same as those of the other participants; however, some questions relating to demographic information (e.g. relationship status) were changed. At the end of the questionnaire the participants had the possibility to view some immediate statistics that included the answers given up to that moment by all participants (this was made possible thanks to Qualtrics) for some questions which they had answered (e.g. "which is the most used social networking site"?). Finally, the participants had the possibility to insert their e-mail address voluntarily so as to be able to receive some preliminary aggregated analyses of the research, with the subsequent guarantees of privacy, anonymity and use for non-commercial purposes.

CHAPTER 4

RESULTS AND DATA ANALYSIS

The results and data analysis consist of three parts which are strictly related to the research goals. The first step concerns the correlation analysis divided by age: adolescents, younger emerging adults, older emerging adults and adults. The correlation tables also contain Cronbach's Alpha test in order to verify the reliability of the scales.

The second step regards the ANOVA analysis concerning the differences between (1) the four age groups, and (2) the two genders, in all factors and variables considered in this study.

Finally, the last step tests the hypotheses previously described: H1 and H4 as multiple moderation; H5 as mediation; H2, H3 and H6 as multiple moderated mediation. All the hypotheses were tested with a multiple regression analysis (Preacher & Hayes, 2004; Hayes, 2009; 2012; 2017). The software used to perform all the above-mentioned analyses is SPSS. More specifically, PROCESS MACRO[42], an observed variable OLS regression path analysis modeling tool for SPSS, was used. Finally, because of the risk of multicollinearity, when testing moderation, the variables were centered before the terms were computed.

[42] http://www.processmacro.org/index.html

4.1 Correlations

Considering the two goals of this research to investigate when and under which conditions the Internet could become either problematic or functional, it is fundamental to verify which of the factors (Self-Esteem, Life Satisfaction, Job Satisfaction, Self-Control, Offline Social-support, Mindfulness, Cognitive Absorption, Problematic Internet Use, Online Social-support, Functional Internet Use), and variables considered (hours per day spent online, checking whether there are updates/feedback/messages on online profiles, replying to updates/feedback/posts on online profiles, sending updates/feedback/messages) are connected to each other. The correlations will be described according to the ages of the four groups considered: adolescents, younger emerging adults, older emerging adults and adults.

Adolescents

The first table (tab. 1) shows the correlations for Adolescents. In terms of the problematic aspects of Internet use, the results show positive correlation between PIU and:

- cognitive absorption,
- FIU,
- hours per day spent online,
- checking if there are updates/feedback/messages on online profiles,
- replying to updates/feedback/posts on online profiles
- sending updates/feedback/messages.

Furthermore, PIU is negatively correlated with:

- self-esteem,
- life satisfaction,
- job satisfaction,
- self-control,
- offline social-support,
- mindfulness.

Moreover, following the direct influences explained in the hypothesis H2 (see Figures 5 and 6), it is important to underline that self-control is negatively correlated with cognitive absorption, which is positively correlated with the hours per day spent online. Regarding the relationships shown in hypothesis H3 (see Figures 7 and 8), it should be noted that there is no correlation between self-esteem and online social-support. However, in terms of the functional side of Internet use, the results show that FIU is positively correlated with:

- self-esteem,
- life satisfaction,
- cognitive absorption,
- PIU,
- online social-support
- the total number of hours per day spent online.

Moreover, FIU has negative correlations with mindfulness. Furthermore, considering the relationships explained in hypothesis H6 (see Figures 16 and 17), positive correlations between job satisfaction and life satisfaction do exist.

Finally, all the scales showed a Cronbach's Alpha higher than .70 (Cronbach, 1947, 1949, 1951; Cronbach, Rajaratnam, & Gleser, 1963; Gliem & Gliem, 2003; Santos, 1999; Tavakol & Dennick, 2011), meaning that all the scales are reliable.

Measures	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Self-Esteem	21.4	3.37	(.81)												
2. Life Satisfaction	4.51	1.24	.565**	(.84)											
3. Job Satisfaction	6.20	1.73	.371**	.516**	(.73)										
4. Self-Control	41.9	8.37	.311**	.356**	.439**	(.82)									
5. Offline Social-support	3.85	.82	.231**	.341**	.236**	.120**	(.92)								
6. Mindfulness	4.04	.73	.225**	.204**	.264**	.516**	.028	(.84)							
7. Cognitive Absorption	4.15	.85	.145**	.096*	-.00	-.099*	-.008	-.135**	(.84)						
8. Problematic Internet Use	3.19	1.43	-.193**	-.219**	-.26**	-.356**	-.151**	-.333**	.415**	(.92)					
9. Online Social-support	3.37	1.01	.076	.136**	.034	-.039	.413**	-.078	.283**	.206**	(.96)				
10. Functional Internet Use	14.18	6.18	.164**	.149**	.052	.023	.02	-.121**	.539**	.252**	.249**	(.90)			
11. Hours per day Spent Online	7.95	5.65	-.097*	-.073	-.09*	-.158**	.044	-.127**	.229**	.233**	.213**	.180**			
12. Checking if there are updates / feedback / messages on your online profiles	3.20	1.30	-.099*	-.088*	-.12**	-.189**	.073	-.147**	.115**	.258**	.207**	.057	.253**		
13. Replying to updates / feedback / posts on your online profiles	3.20	1.35	-.073	-.06	-.07	-.085*	.115**	-.110**	.087*	.174**	.231**	.052	.239**	.663**	
14. Sending updates / feedback / messages	2.93	1.45	-.076	-.047	-.08	-.071	.115**	-.088*	.093*	.174**	.202**	.063	.257**	.529**	.693**

Note ** p< .01 * p<.05

Table 1: Correlations of Adolescents and the reliability of the scales (Cronbach's Alpha)

Younger Emerging Adults

Considering the correlations found in the group of younger emerging adults (Tab. 2), the results show positive correlations between PIU and:

- cognitive absorption,
- online social-support,
- FIU,
- hours per day spent online,
- checking if there are updates/feedback/messages on online profiles,
- replying to updates/feedback/posts on online profiles,
- sending updates/feedback/messages.

In addition, as for adolescents, PIU is negative correlated with:

- self-esteem,
- life satisfaction,
- job satisfaction,
- self-control,
- offline social-support,
- mindfulness.

Moreover, following the direct influences showed in hypothesis H2 (see Figures 5 and 6), it is important to underline that self-control is negatively correlated with cognitive absorption, which is positively correlated with the hours per day spent online. Regarding the relationships in hypothesis H3 (see Figures 7 and 8), there is no correlation between self-esteem and online social-support for younger emerging adults. On the other hand, FIU has positive correlations with:

- self-esteem
- cognitive absorption,
- PIU,
- online social-support
- the total number of hours per day spent online.

In addition, FIU is negatively correlated with mindfulness. Furthermore, considering the relationships described in hypothesis H6 (see Figures 16 and 17), as was the case

for adolescents, there is positive correlation between job satisfaction and life satisfaction. Finally, the Cronbach's Alpha test produced results higher than .70 (Cronbach, 1947, 1949, 1951; Cronbach, Rajaratnam, & Gleser, 1963; Gliem & Gliem, 2003; Santos, 1999; Tavakol & Dennick, 2011), meaning that all the scales are reliable.

Measures	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Self-Esteem	21.4	3.44	(.83)												
2. Life Satisfaction	4.24	1.21	.590**	(.85)											
3. Job Satisfaction	6.53	1.81	.390**	.400**	(.79)										
4. Self-Control	41.8	7.32	.377**	.328**	.335**	(.81)									
5. Offline Social-support	3.94	.79	.289**	.456**	.214**	.166**	(.93)								
6. Mindfulness	4.05	.69	.216**	.177**	.191**	.398**	.071	(.75)							
7. Cognitive Absorption	3.93	.77	-.017	-.002	-.048	-.102**	.035	-0.03	(.82)						
8. Problematic Internet Use	2.88	1.32	-.323**	-.254**	-.235**	-.409**	-.229**	-.290**	.440**	(.92)					
9. Online Social-support	3.18	1.05	.054	.151**	.012	.067	.372**	-.029	.232**	.195**	(.97)				
10. Functional Internet Use	13.28	5.76	.086*	.047	.041	0.04	-.086*	-.076*	.437**	.177**	.099*	(.88)			
11. Hours per day Spent Online	8.78	6.11	-.064	.005	-.069	-.165**	.011	-.095*	.216**	.303**	.133**	.142**			
12. Checking if there are updates / feedback / messages on your online profiles	3.16	1.17	-.04	0.005	-.041	-.120**	.053	-.066	.228**	.330**	.247**	.059	.296**		
13. Replying to updates / feedback / posts on your online profiles	2.94	1.28	.026	.089*	-.069	-.096*	.126**	-.100**	.155**	.239**	.263**	.013	.298**	.648**	
14. Sending updates / feedback / messages	2.60	1.34	.072	.115**	-.056	-.077*	.199**	-.048	.183**	.178**	.283**	.001	.241**	.519**	.728**

Note ** p< .01 * p<.05

Table 2: Correlations of Younger Emerging Adults and the reliability of scales (Cronbach's Alpha)

Older Emerging Adults

Unlike adolescents and younger emerging adults, in older emerging adults (Tab. 3) PIU is not correlated with the total number of hours per day spent online, but does show positive correlation with:

- cognitive absorption,
- online social-support,
- FIU,
- checking whether there are updates/feedback/messages on online profiles,
- replying to updates/feedback/posts on online profiles,
- sending updates/feedback/messages.

As for the other groups previously mentioned, PIU is negatively correlated with:

- self-esteem,
- life satisfaction,
- job satisfaction,
- self-control,
- offline social-support,
- mindfulness.

Furthermore, as was the case for adolescents and younger emerging adults, following the direct relationships described in hypothesis H2 (see Figures 5 and 6), self-control is negatively correlated with cognitive absorption, which is not correlated with the number of hours per day spent online (unlike the observations made in the two previous groups). Regarding the relationships of hypothesis H3 (see Figures 7 and 8), self-esteem and online social-support are not correlated. For older emerging adults, FIU is positively correlated with:

- cognitive absorption,
- PIU,
- online social-support
- the total number of hours per day spent online.

However, unlike with adolescents and younger emerging adults, there is no correlation with self-esteem. On the contrary, in this age group, FIU does not show any negative

correlations. Regarding the relationships of hypothesis H6 (see Figures 16 and 17), there is positive correlation between job satisfaction and life satisfaction (as was the case for adolescents and younger emerging adults). Finally, all the scales had a Cronbach's Alpha higher than .80 (Cronbach, 1947, 1949, 1951; Cronbach, Rajaratnam, & Gleser, 1963; Gliem & Gliem, 2003; Santos, 1999; Tavakol & Dennick, 2011), meaning that the scales are extremely reliable.

Measures	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Self-Esteem	22.4	3.13	(.82)												
2. Life Satisfaction	4.30	1.21	.511**	(.86)											
3. Job Satisfaction	6.97	1.81	.351**	.536**	(.81)										
4. Self-Control	44.3	7.04	.322**	.380**	.406**	(.80)									
5. Offline Social-support	3.85	.77	.312**	.528**	.321**	.188*	(.93)								
6. Mindfulness	4.09	.74	.243**	.164*	.066	.446**	.146	(.82)							
7. Cognitive Absorption	3.79	.72	.019	-.045	.05	-.210**	.102	-.222**	(.81)						
8. Problematic Internet Use	2.54	1.12	-.212**	-.307**	-.162*	-.319**	-.285**	-.398**	.511**	(.90)					
9. Online Social-support	2.93	.96	-.032	.073	.06	-.082	.167*	.11	.139	.159*	(.95)				
10. Functional Internet Use	15.69	6.28	.029	.056	.112	-.043	-.028	-.001	.375**	.226**	.162*	(.91)			
11. Hours per day Spent Online	9.67	6.77	.011	-.025	.084	-.007	-.065	-.023	.118	.144	.073	.266**			
12. Checking if there are updates / feedback / messages on your online profiles	3.03	1.07	.07	.001	-.005	-.169*	.161*	-.115	.342**	.290**	.243**	.087	.257**		
13. Replying to updates / feedback / posts on your online profiles	2.58	1.10	.087	-.031	.097	-.064	.117	-.078	.286**	.220**	.301**	.079	.238**	.715**	
14. Sending updates / feedback / messages	2.22	1.04	.103	-.011	.003	-.055	.115	-.074	.220**	.209**	.242**	.095	.160*	.604**	.734**

Note ** p< .01 * p<.05

Table 3: Correlations of Older Emerging Adults and the reliability of scales (Cronbach's Alpha)

Adults

The final correlations concern the group of adults (Tab. 4). In this sample, PIU shows positive correlations with:

- cognitive absorption,
- online social-support,
- FIU,
- checking whether there are updates/feedback/messages on online profiles,
- replying to updates/feedback/posts on online profiles,
- sending updates/feedback/messages.

In addition, as was the case for adolescents and younger emerging adults, PIU in adults is positively correlated with the number of hours per day spent online. As with the other groups, PIU is negatively correlated with:

- self-esteem,
- life satisfaction,
- job satisfaction,
- self-control,
- offline social-support,
- mindfulness.

Moreover, considering the direct relationships described in hypothesis H2 (see Figures 5 and 6), in this case too, as with the other groups, self-control is negatively correlated with cognitive absorption, which is positive correlated with the number of hours per day spent online (as with adolescents and younger emerging adults). Following the relationships of hypothesis H3 (see Figures 7 and 8), self-esteem and online social-support are not correlated, as was the case for older emerging adults. Instead, FIU is positively correlated with:

- job satisfaction,
- mindfulness,
- cognitive absorption,
- PIU,
- the total number of hours per day spent online,
- checking whether there are updates/feedback/messages on online profiles.

Unlike all the other groups, in the group of adults FIU is not correlated with online social-support. Finally, regarding the relationships of hypothesis H6 (see Figures 16 and 17), job satisfaction and life satisfaction are positively correlated (as was the case with adolescents, younger and older emerging adults). Moreover, as with adolescents and younger emerging adults, all the scales show a Cronbach's Alpha higher than .70 (Cronbach, 1947, 1949, 1951; Cronbach, Rajaratnam, & Gleser, 1963; Gliem & Gliem, 2003; Santos, 1999; Tavakol & Dennick, 2011), meaning that all the scales are reliable.

Measures	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Self-Esteem	22.7	2.79	(.78)												
2. Life Satisfaction	4.76	1.19	.526**	(.89)											
3. Job Satisfaction	6.95	1.89	.398**	.515**	(.83)										
4. Self-Control	47.5	7.47	.373**	.368**	.246**	(.81)									
5. Offline Social-support	3.88	.76	.291**	.341**	.207**	.173**	(.93)								
6. Mindfulness	4.30	.71	.227**	.191**	.176**	.400**	.245**	(.79)							
7. Cognitive Absorption	3.81	.77	-.03	-.027	.047	-.159**	-.012	-.223**	(.81)						
8. Problematic Internet Use	2.03	1.06	-.207**	-.200**	-.104**	-.358**	-.194**	-.321**	.412**	(.91)					
9. Online Social-support	2.64	1.04	.037	.033	.067	-.007	.223**	.037	.131**	.202**	(.97)				
10. Functional Internet Use	16.18	6.72	.062	.037	.175**	-.072	.028	-.161**	.389**	.190**	-.002	(.91)			
11. Hours per day Spent Online	6.62	5.78	-.022	-.089*	.001	-.171**	.067	-.052	.146**	.155**	.163**	.279**			
12. Checking if there are updates / feedback / messages on your online profiles	2.65	1.21	-.017	0	-.017	-.106**	.069	.006	.185**	.221**	.238**	.091*	.164**		
13. Replying to updates / feedback / posts on your online profiles	2.38	1.17	-.025	-.007	.004	-.077*	.092*	.035	.168**	.192**	.246**	.07	.147**	.752**	
14. Sending updates / feedback / messages	2.27	1.12	-.029	.01	-.021	-.038	.069	.003	.088*	.155**	.213**	.066	.119**	.617**	.748**

Note ** p< .01 * p<.05

Table 4: Correlations of Adults and scales' reliability (Cronbach's Alpha)

4.2 ANOVA

When examining the two focuses of this research, namely when and under which conditions the Internet could become either problematic or functional in different age groups, it is also important to verify whether and in which factors (Self-Esteem, Life Satisfaction, Job Satisfaction, Self-Control, Offline Social-support, Mindfulness, Cognitive Absorption, Problematic Internet Use, Online Social-support, Functional Internet Use), there are differences between adolescents, younger emerging adults, older emerging adults and adults, and between females and males. Starting from the literature previously presented, many differences can be hypothesized between the different age groups for several of the various factors and variables investigated in this study, as described in the following paragraphs.

ANOVA Test Between Age Groups

The first ANOVA (Tab. 5) presents the differences between the four age groups concerning the principal factors of this study, and the variables related to the time spent online. The results show significant differences between factors related to Internet use for the four age groups: adolescents, younger emerging adults, older emerging adults and adults (Tab. 5). In this regard, adolescents show significantly higher scores (compared to all the others age groups) in cognitive absorption, online social-support, checking whether there are updates/feedback/messages on their online profiles, replying to updates/feedback/posts on their online profiles, sending updates/feedback/messages. Moreover, they present consequently higher levels of PIU compared (in terms of their scores on the scales) to: younger emerging adults, older emerging adults and adults respectively. Furthermore, younger emerging adults have significantly higher scores than older emerging adults in self-esteem, job satisfaction, cognitive absorption online social-support, replying to updates/feedback/posts on online profiles and sending updates/feedback/messages. Consequently, younger emerging adults have significantly higher PIU than older emerging adults and significantly lower FIU. Finally, in line with the previously outlined theoretical background, adults have higher levels of self-esteem, life satisfaction, self-control,

mindfulness and they use Internet in a more functional way (they have the highest FIU scores) than all the other age groups.

Related to Internet Use	**Mean Difference**					
	Adolescents	**Younger Emerging Adults**	**Older Emerging Adults**	**Adults**	***F***	***df***
1. Self-Esteem					27.6	3
Adolescents		.067	-.97*	-1.29*		
Younger Emerging Adults	-.067		-1.04*	-1.36*		
Older Emerging Adults	.970*	1.04*		-.32		
Adults	1.29*	1.35*	.32			
2. Life Satisfaction					23.1	3
Adolescents		.27*	.22	-.25*		
Younger Emerging Adults	-.27*		-.06	-.52*		
Older Emerging Adults	-.21	.06		-.46*		
Adults	.25*	.52*	.46*			
3. Job Satisfaction					20.6	3
Adolescents		-.33*	-.78*	-.75*		
Younger Emerging Adults	.33*		-.44*	-.42*		
Older Emerging Adults	.78*	.44*		.02		
Adults	.75*	.42*	.46*			
4. Self-Control					82.9	3
Adolescents		-.33*	-.77*	-.75*		
Younger Emerging Adults	.33*		-.44*	-.42*		
Older Emerging Adults	.77*	.44*		.02		
Adults	.75*	.42*	-.02			
5. Offline Social-support					1.6	3
Adolescents		-.09	-.01	-.03		
Younger Emerging Adults	0.09		.09	.06		
Older Emerging Adults	.01	-.09		-.03		
Adults						
6. Mindfulness					20.4	3
Adolescents		-.014	-.049	-.26*		
Younger Emerging Adults	.01	-.04		-.25*		
Older Emerging Adults	.05	.04		-.22*		
Adults	.26*	.25*	.22*			
7. Cognitive Absorption					21.7	3
Adolescents		.22*	.36*	.34*		
Younger Emerging Adults	-.22*		.14	.12*		
Older Emerging Adults	-.36*	-.14		-.02		
Adults	-.34*	-.12*	.02			
8. Problematic Internet Use					100.5	3
Adolescents		.31*	.65*	1.16*		
Younger Emerging Adults	-.31*		.34*	.85*		
Older Emerging Adults	-.65*	-.34*		.51*		
Adults	-1.16*	-.85*	-.51*			
9. Online Social-support					60.3	3
Adolescents		.19*	.44*	.74*		
Younger Emerging Adults	-.193*		.25*	.55*		
Older Emerging Adults	-.44*	-.25*		.29*		
Adults	-.74*	-.55*	-.29*			
10. Functional Internet Use					27.8	3
Adolescents		.91	-1.51*	-1.99*		
Younger Emerging Adults	-.91		-2.42*	-2.90*		
Older Emerging Adults	1.51*	2.42*		-.49		
Adults	1.99*	2.9*	.49			

11. Hours per day Spent Online					21	3
Adolescents		-.83	-1.72*	1.33*		
Younger Emerging Adults	.83		-0.89	2.16*		
Older Emerging Adults	1.72*	0.89		3.05*		
Adults	-1.33*	-2.16*	-3.05*			
12. Checking if there are updates / feedback / messages on your online profiles					29.3	3
Adolescents		.04	.17	.55*		
Younger Emerging Adults	-.04		.13	.51*		
Older Emerging Adults	-.17	-.13		.38*		
Adults	-.55*	-.51*	-.38*			
13. Replying to updates / feedback / posts on your online profiles					52	3
Adolescents		.26*	.63*	.82*		
Younger Emerging Adults	-.26*		.37*	.57*		
Older Emerging Adults	-.63*	-.37*		.20		
Adults	-.82*	-.57*	-.20			
14. Sending updates / feedback / messages					32.1	3
Adolescents		.34*	.71*	.66*		
Younger Emerging Adults	-.34*		.38*	.32*		
Older Emerging Adults	-.71*	-.38*		-.053		
Adults	-.66*	-.32*	.053			

Note $p < 0.05$*

Table 5: Significant results of the Bonferroni post-hoc factors related to Internet use between adolescents, younger emerging adults, older emerging adults and adults

Regarding the number and type of contacts that people have in their offline and online lives (Tab. 6), adolescents have more connections than all the other age groups concerning online and offline friends, offline acquaintances and online contacts. Furthermore, in line with the theories previously described (Ellison, Steinfield, & Lampe, 2007, 2011; Mazzoni & Iannone, 2014), younger emerging adults have a significantly higher amount of friends, online acquaintances and online contacts than adults.

Number and typology of Contacts	**Mean Difference**					
	Adolescents	**Younger Emerging Adults**	**Older Emerging Adults**	**Adults**	***F***	***df***
1. Offline Friends					69.2	3
Adolescents		.64*	.87*	.93*		
Younger Emerging Adults	-.64*		.23	.29*		
Older Emerging Adults	-.87*	-.23		.06		
Adults	-.93*	-.29*	-.06			
2. Offline Acquaintances					1.78	3
Adolescents		.18	.20	.09		
Younger Emerging Adults	-.18		.03	-.08		
Older Emerging Adults	-.20	-.03		-.11		
Adults		-.09	.08	.11		
3. Online Friends					33.4	3
Adolescents		95*	127*	103*		
Younger Emerging Adults	-95*		31	8.06		
Older Emerging Adults	-127*	-31		-23.6		
Adults	-103*	-8	23			
4. Online Acquaintances					19.3	3
Adolescents		201*	314*	458*		
Younger Emerging Adults	-201*		112	256*		
Older Emerging Adults	-314*	-112		143		
Adults	-458*	-256*	-143			
5. Online Contacts					24.7	3
Adolescents		499*	820*	1028*		
Younger Emerging Adults	-499*		321	528*		
Older Emerging Adults	-820*	-321		207		
Adults	-1028 *	-528*	-207			

Note p< 0.05*

Table 6: Significant results of the Bonferroni post-hoc regarding number and typology of contacts (Online and Offline) between adolescents, younger emerging adults, older emerging adults and adults

Considering the use of devices (Tab. 7), younger emerging adults use tablets more often during the day than all the other age groups. In addition, adolescents use smartphones more than all the other age groups, particularly in comparison to adults, who use them the least overall. On the other hand, adults use computers significantly more than the other groups.

Typology of Devices Used During a Day	**Mean differences**					
	Adolescents	**Younger Emerging Adults**	**Older Emerging Adults**	**Adults**	***F***	***df***
1. Tablet					3.92	3
Adolescents		-.96*	-.21	-.12		
Younger Emerging Adults	.96*		.75	.84*		
Older Emerging Adults	.21	-.75		.09		
Adults	.12	-.84*	-.09			
2. Smartphone					41.4	3
Adolescents		-0.47	-1.07	3.03*		
Younger Emerging Adults	0.47		-.60	3.51*		
Older Emerging Adults	1.07	.60		4.13*		
Adults	-3.03*	-3.51*	-4.10*			
3. Computer					33.1	3
Adolescents		-1.30*	-3.07*	-1.66*		
Younger Emerging Adults	1.30*		-1.76*	-.36		
Older Emerging Adults	3.06*	1.76*		1.40*		
Adults	1.66*	.36	-1.40*			

Note p< 0.05*

Table 7 Significant results of the Bonferroni post-hoc regarding the typology of device used during a day (Online and Offline) between adolescents, younger emerging adults, older emerging adults and adults

The use of SNSs and Web tools/applications (Tab. 8) during free time is greater for adolescents than it is among younger emerging adults, especially regarding Facebook and WhatsApp. Moreover, adolescents use YouTube, Instagram and WhatsApp during their free time significantly more than adults do. Finally, older emerging adults use e-mail during their free time significantly more than all the other age groups.

The Use of SNSs and Web tool/applications During Free Time	Mean Difference					
	Adolescents	**Younger Emerging Adults**	**Older Emerging Adults**	**Adults**	***F***	***df***
1. Facebook					42.5	3
Adolescents		-1.15*	-.74*	.13		
Younger Emerging Adults	1.15*		.40	1.28*		
Older Emerging Adults	.74*	-.40		.88*		
Adults	-.13	-1.28*	-.88*			
2. YouTube					17.6	3
Adolescents		.07	.46	1.03*		
Younger Emerging Adults	-.07		.39	.96*		
Older Emerging Adults	-.46	-.39		.57*		
Adults	-1.03*	-.96*	-.57*			
3. Instagram					4.48	3
Adolescents	.19	.10	.75*			
Younger Emerging Adults	-.19		-.09	.56		
Older Emerging Adults	-.10	.09		.64		
Adults	-.75*	-.56	-.64			
4. WhatsApp					125	3
Adolescents		.10	1.47*	3.11*		
Younger Emerging Adults	-.10		1.366*	3.01*		
Older Emerging Adults	-1.47*	-1.36*		1.64*		
Adults	-3.11*	-3.01*	-1.64*			
5. E-mail					6.76	3
Adolescents		-.22	-.89*	-.18		
Younger Emerging Adults	.22		-.67*	.04		
Older Emerging Adults	.89*	.67*		.71*		
Adults	.18	-.04	-.71*			

Note p< 0.05*

Table 8 Significant results of the Bonferroni post-hoc regarding the SNSs and Web/tool applications' use during free time (Online and Offline) between adolescents, younger emerging adults, older emerging adults and adults

During working time (Tab. 9), younger emerging adults use Facebook significantly more than adolescents, and Instagram significantly more than adults. Furthermore, adults use WhatsApp less and e-mail more than all the other groups.

The Use of SNSs and Web tools/applications During Working Time	**Mean Differences**					
	Adolescents	**Younger Emerging Adults**	**Older Emerging Adults**	**Adults**	***F***	***df***
1. Facebook					20.6	3
Adolescents		-.64*	-.36	.13		
Younger Emerging Adults	.64*		.28	.77*		
Older Emerging Adults						
Adults	.36	-.28		.48*		
2. YouTube					.73	3
Adolescents		.05	-.14	.10		
Younger Emerging Adults	-.05		-.20	.04		
Older Emerging Adults	.14	.20		.24		
Adults	-.10	-.04	-.24			
3. Instagram					2.93	3
Adolescents		-.05	.29	.38		
Younger Emerging Adults	.05		.34	.43*		
Older Emerging Adults	-.29	-.34		.09		
Adults	-.38	-.43*	-.09			
4. WhatsApp					55.6	3
Adolescents		-.35	.72	1.67*		
Younger Emerging Adults	.35		1.06*	2.02*		
Older Emerging Adults	-.72	-1.06*		.96*		
Adults	-1.67*	-2.02*	-.96*			
5. E-mail					35.7	3
Adolescents		-.30	-1.66*	-1.87*		
Younger Emerging Adults	.30		-1.36*	-1.57*		
Older Emerging Adults	1.66*	1.36*		-.22		
Adults	1.87*	1.57*	.22			

Note p< 0.05*

Table 9 Significant results of the Bonferroni post-hoc regarding the SNSs and Web/tool applications' use during working time (Online and Offline) between adolescents, younger emerging adults, older emerging adults and adults

ANOVA Test Between Genders

The research sample consists of 1,372 females and 758 males. In terms of the factors related to the use of the Internet (Tab. 10), there are significant differences in favor of males who present higher levels of self-esteem and cognitive absorption. Moreover, males spend more hours per day online compared to females and present higher scores in both PIU and FIU, though females present greater life satisfaction, self-control and offline social-support (Table 10). On the other hand, there are no differences regarding: checking whether there are updates/feedback/messages on online profiles, replying to updates/feedback/posts on online profiles or sending updates/feedback/messages.

Factors Related to Internet Use			
	Mean	**SD**	***F***
1. Self-Esteem			6.13
Females	21.8**	3.30	
Males	22.2**	3.16	
2. Life Satisfaction			.14
Females	4.50	1.23	
Males	4.48	1.24	
3. Job Satisfaction			19.4
Females	6.75**	1.83	
Males	6.38**	1.85	
4. Self-Control			85.6
Females	44.7**	8.27	
Males	42.6**	7.53	
5. Offline Social-support			
Females	4.00**	.74	
Males	3.68**	.83	
6. Mindfulness			.00
Females	4.14	.71	
Males	4.14	074	
7. Cognitive Absorption			30.4
Females	3.87**	.79	
Males	4.07**	.80	
8. Problematic Internet Use			66.4
Females	2.50	1.27	
Males	2.96	1.41	
9. Online Social-support			.17
Females	3.04	1.11	
Males	3.02	1.00	
10. Functional Internet Use			42.1
Females	14.0**	6.21	
Males	15.9**	6.47	
11. Hours per day Spent Online			20.7
Females	7.45**	5.77	
Males	8.67**	6.35	

Note ** p< .01 * p<.05

Table 10: ANOVA Test of factor related to Internet use between females and males

Males also have more friends and acquaintances (both online and offline) than females. There are, however, no differences regarding the number of online contacts (Tab. 11).

Number and Typology of Contacts			
	Mean	**SD**	***F***
1. Offline Friends			125
Females	2.23**	1.10	
Males	2.85**	1.41	
2. Offline Acquaintances			33.2
Females	3.9**	1.46	
Males	4.28**	1.44	
3. Online Friends			7.19
Females	100**	193	
Males	125**	256	
4. Online Acquaintances			5.84
Females	571*	1018	
Males	692*	1248	
5. Online Contacts			2.59
Females	1095	2195	
Males	1256	2241	

Note ** p< .01 * p<.05

Table 11: ANOVA Test of number and typology of contacts (online and offline) between females and males

Regarding the typology of devices used to for connect to the Internet (Tab. 12), the only difference is in favor of males in the use of computers. No differences were found in the use of tablets and smartphones.

Typology of Devices Used During a Day			
"Indicate within a day. how many hours you are connected using."	**Mean**	**SD**	**F**
1. Tablet		3.11	.24
Females	2.09	2.71	
Males	1.98		
2. Smartphone		6.35	.68
Females	6.98	6.93	
Males	7.24		
3. Computer		3.51	41.5
Females	3.33**	4.29	
Males	4.48**		

Note ** p< .01 * p<.05

Table 8: ANOVA Test regarding typology of device used during a day between females and males

Moreover, concerning the use of SNSs and Web tools/applications (Tab. 13), there is a difference in the use of Instagram: females use this application significantly more than males during their free time. There are no differences in the use of the other SNSs or Web tools/applications (Tab. 13).

The use of SNSs and Web tools/applications During Free Time			
"During the day how long do you usually use.."	**Mean**	**SD**	***F***
1. Facebook			1.30
Females	3.13	2.09	
Males	3.0	2.19	
2. YouTube			.68
Females	2.68	1.89	
Males	2.77	1.62	
3. Instagram			14.9
Females	2.65**	1.88	
Males	2.07**	1.53	
4. WhatsApp			2.83
Females	4.64	3.39	
Males	4.36	3.22	
5. E-mail			2.55
Females	1.76	1.77	
Males	1.94	1.87	

Note ** p< .01 * p<.05

Table 9: ANOVA Test of SNSs and Web tools used by females and males during free time

Finally, no gender differences occur in the use of SNSs and Web tools during study/working time.

4.3 Hypotheses Testing

The hypotheses will be described following the order in which the literature was presented in the previous chapters: firstly, the hypotheses related to PIU (H1, H2, H3) followed by those related to the FIU (H4, H5, H6). Tables and graphs, both conceptual and statistical, will be presented for each model. The color red identifies the significant relationships and their corresponding values. Moreover, considering that age is a moderator in hypotheses H1, H4 and H6, the analyses carried out were not divided for each age group. However, for hypotheses H2, H3 and H5, the models were tested for each age group.

In all analysis confidence interval (CI) of 95% was considered with bootstrap at 10.000.

The decision to choose this bootstrapping interval is due to the fact that it is already widely used in statistical mediation analysis and its performance has been extensively studied and shown to be superior to the Sobel test (Hayes, 2012). Furthermore, it is simple to understand and is already implemented in software that researchers are using for mediation analyses. According to Heyes (2015) "[..] *to generate a bootstrap confidence interval for the index of moderated mediation, a bootstrap sample of the original data is generated, the regression coefficients for the statistical model are estimated in this bootstrap sample, and the index of moderated mediation is calculated* [..]". Repeated *k* times, where *k* is preferably at least 1,000 (since more is better, in this research *k* = 10,000). The end points of a 95% bootstrap confidence interval are the two values of the index in the distribution of *k* values that define the 2.5th and 97.5th percentiles of the distribution (Hayes, 2015). Thus, the interpretations of the index of moderated moderated mediation and conditional moderated mediation (Hayes, 2012, 2017a, 2017b) are as follows:

a) if the confidence interval (CI) includes zero, there is no definitive evidence of moderation of the mediation of X's effect on Y through M;
b) if CI does not include zero, this leads to the inference that the relationship between the indirect effect and the moderator is not zero and that moderated mediation does occur.

H1. *The hours per day spent online (X) affect PIU (Y), through the moderation of gender (M) and age (W).*

The results show that the model is significant and that the number of hours per day spent online positively affects PIU through the negative moderation of age (which is the total significant moderator in this relation). In addition, the results of conditional relationships (e.g. age x hours per day spent online) are of significance (Tab. 14; fig. 19).

Model Summary				
R	.42			
R^2	.18			
MSE	1.48			
p	.00**			
		Outcome		
		Y: Problematic Internet Use - PIU		
	B	**SE**	**t**	***p***
Constant	2.3	.19	12.5	.00**
X: Hours per day spent online	.10	.02	5.49	.00**
W: Age	- .02	.00	-.5.89	.00**
M: Gender	.39	0.10	4.01	.00**
XW: Hours per day spent online x Age	-.00	.00	-.4.29	.00**
XM: Hours per day spent online x Gender	-.00	.01	-.97	.33

Note ** p< .01 * p<.05

Table 14: Results of multiple regression test regarding multiple moderation model of H1

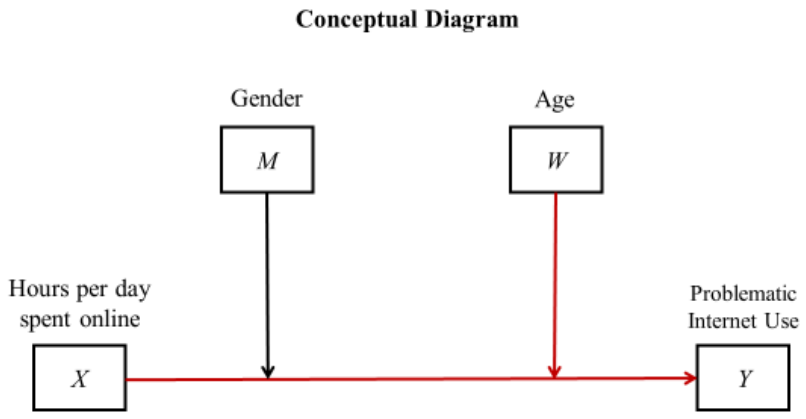

Figure 19: Graphical representation of the significant relationship in H1 concerning the conceptual diagram of multiple moderation hypothesis

Despite gender as a single mediator not being significant, this is what happens when it is associated with age (Fig. 20).

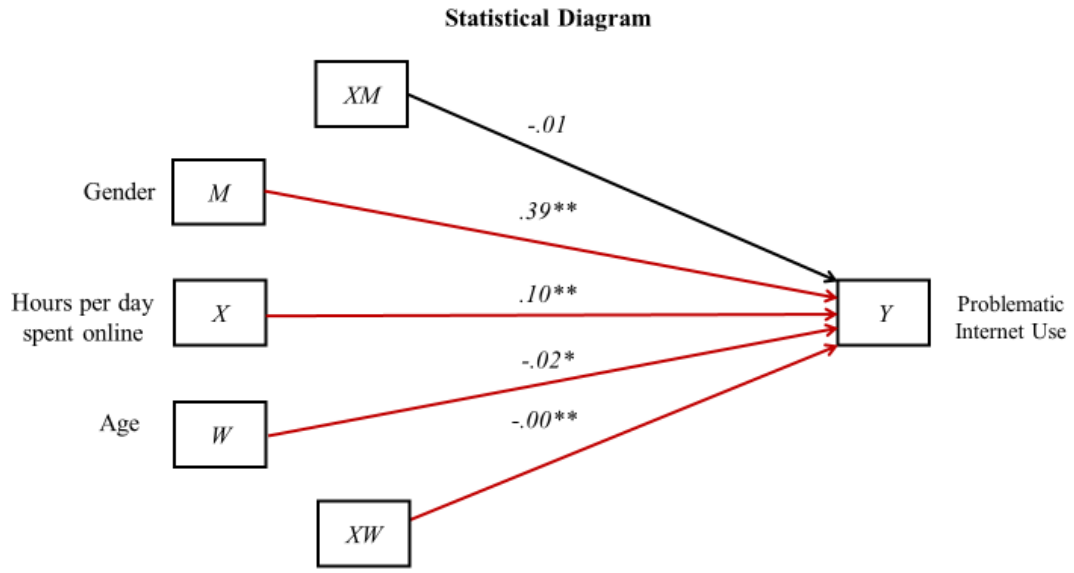

Figure 10: Graphical representation with values of significant relationship in H1 concerning the statistical diagram of multiple moderation hypothesis

H2. *The hours per day spent online (X) affect PIU (Y), through the mediation of cognitive absorption (M_i) and the moderation of self-control (W) and mindfulness (V)*

Adolescents

The number of hours per day spent online does not predict either cognitive absorption or PIU. Cognitive absorption alone affects positively, and significantly, PIU but it is not a significant mediator of the model as a whole (Tab. 15, Fig.21). Indeed, the index of moderated mediation has a CI that includes zero, so the mediation of cognitive absorption is not relevant to the total model. However, cognitive absorption affects PIU if there is a moderation of mindfulness: with high levels of cognitive absorption and low levels of mindfulness, PIU increases. In this case, the index of conditional moderated mediation is significant. Moreover, self-control directly affects PIU. On the other hand, the other relationships are not significant; this means that self-control is a partially significant moderator (Fig. 22).

Model Summary					**Model Summary**				
R	.23				**R**	.56			
R^2	.06				**R^2**	.32			
MSE	.68				**MSE**	1.41			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Cognitive Absorption					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	4.18	.32	13.2	00**		.29	1.34	.22	.82
X: Hours per day spent online	.03	.03	1.10	.27		.01	.05	.19	.84
W: Self-Control	-.01	.01	-.97	.33		-.02	.00	-.196	.05*
XW: Hours per day spent online x Self-Control	-.00	.00	-.08	.93		-.00	.00	-.1.3	.18
					M: Cognitive Absorption	1.37	.31	4.42	.00**
					V: Mindfulness	.29	.33	.89	.37
					MV: Cognitive Absorption x Mindfulness	-.19	.08	-.2.55	.01*
					XV: Hours per day spent online x Mindfulness	.02	.01	1.65	.09

Note ** p< .01 * p<.05

Table 15: H2 results of the multiple regression test regarding multiple moderated mediation adolescents' model

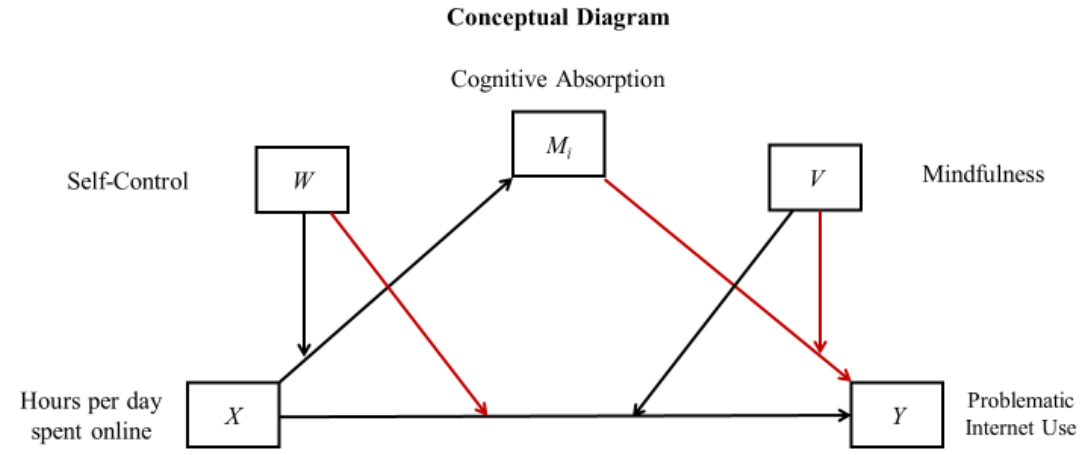

Figure 21: Graphical representation for adolescents of the significant relationship in H2 concerning the conceptual diagram of multiple moderated mediation hypothesis

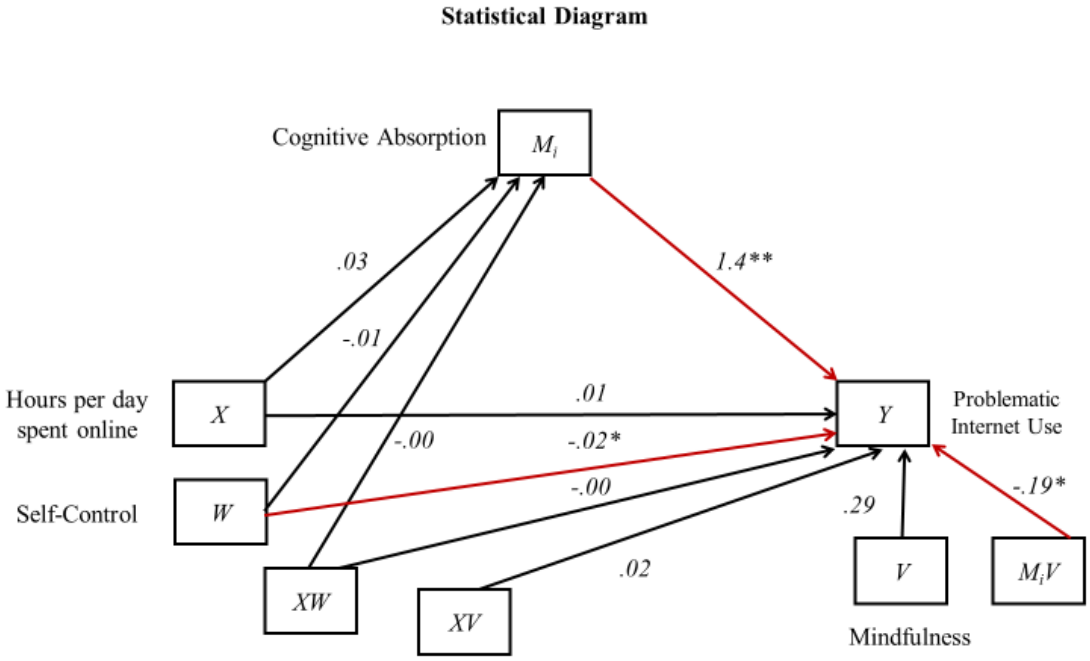

Figure 22: Graphical representation for adolescents with values of the significant relationship in H2 concerning the statistical diagram of multiple moderated mediation hypothesis

Younger emerging adults

Unlike adolescents, younger emerging adults present relationships that are more significant in this model. The results show that the number of hours per day spent online significantly predicts both cognitive absorption and PIU. Indeed, in this case, cognitive absorption is a good mediator, though it is not significant when it is associated with mindfulness (Tab. 16, Fig.23).

Model Summary					**Model Summary**				
R	.24				**R**	.62			
R^2	.06				**R^2**	.38			
MSE	.06				**MSE**	1.09			
p	.00**				**p**	.00**			
	Outcome					**Outcome**			
	M: Cognitive Absorption					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	3.60	.31	11.7	.00**		3.47	1.28	2.71	0.1*
X: Hours per day spent online	.06	.03	2.64	.01*		-.09	.04	-2.2	.03*
W: Self-Control	.00	.00	.39	.70		-.06	.01	-5.35	.00**
XW: Hours per day spent online x Self-Control	-.00	.00	-.1.60	.11		.00	.00	.61	.53
					M: Cognitive Absorption	.93	.30	3.02	.00**
					V: Mindfulness	-.25	.30	-.83	.40
					MV: Cognitive Absorption x Mindfulness	-.07	.07	.96	.33
					XV: Hours per day spent online x Mindfulness	.03	.00	2.63	.01*

Note ** p< .01 * p<.05

Table 16: H2 results of the multiple regression test regarding multiple moderated mediation younger emerging adults' model

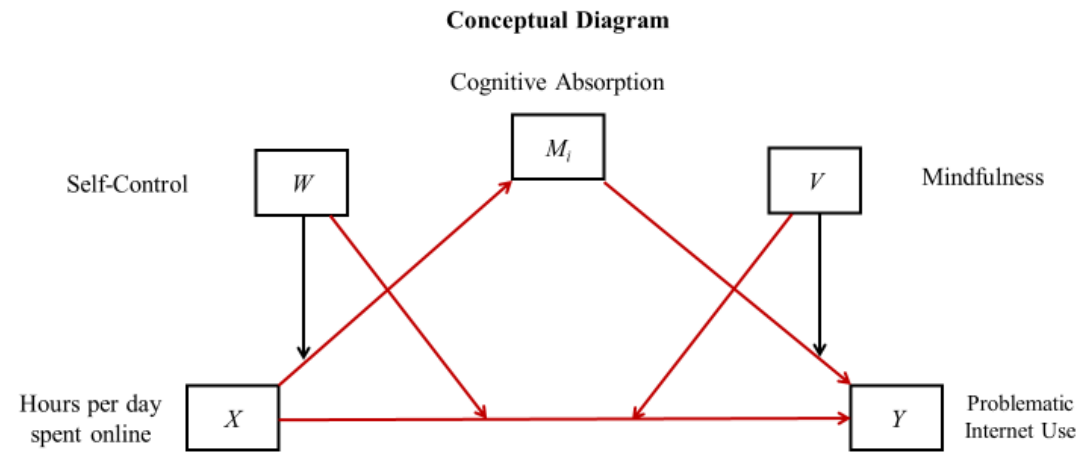

Figure 23: Graphical representation for younger emerging adults of the significant relationship in H2 concerning the conceptual diagram of multiple moderated mediation hypothesis

Moreover, self-control is a partially significant moderator because it affects only the direct relationship with PIU, but not the other conditional effects. Indeed, its index of partial moderated mediation is not significant (Fig. 24). Despite the fact that mindfulness is not a significant moderator in this model, it does positively affect PIU but only if it is associated with the number of hours per day spent online.

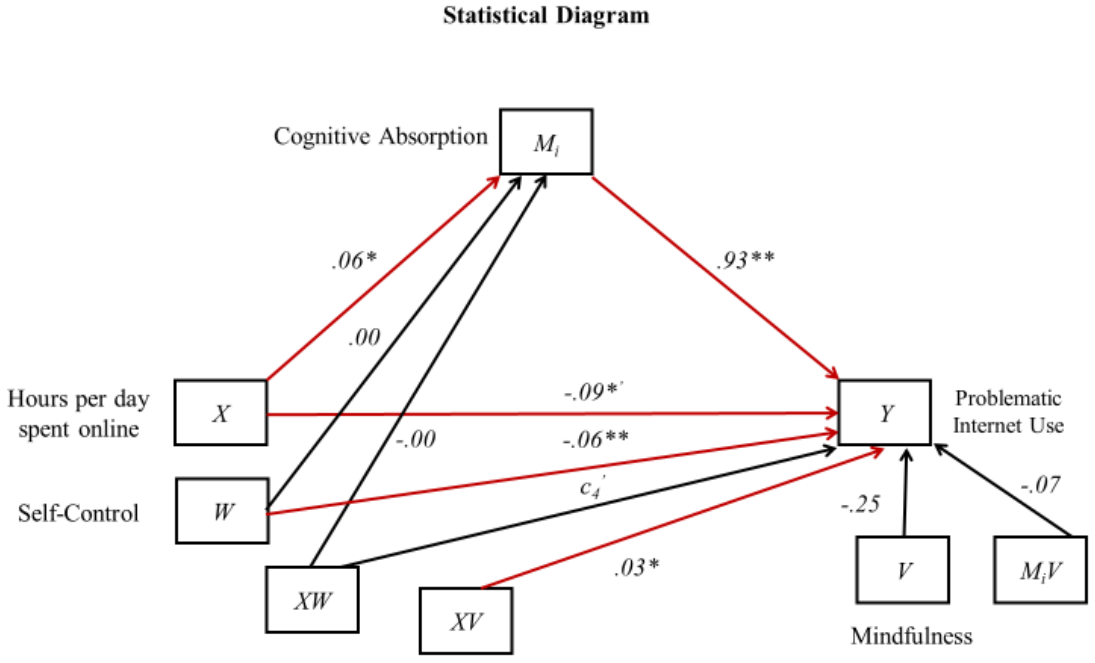

Figure 24: Graphical representation for younger emerging adults with values of the significant relationship in H2 concerning the statistical diagram of multiple moderated mediation hypothesis

Older emerging adults

For this group the only significant relationship is that of the number of hours per day spent online which directly positively predicts PIU (Fig.25, 26, Tab.17). The other factors are not significant in this model. Indeed, both the indices of moderated moderated mediation and that of conditional moderated mediation are not significant.

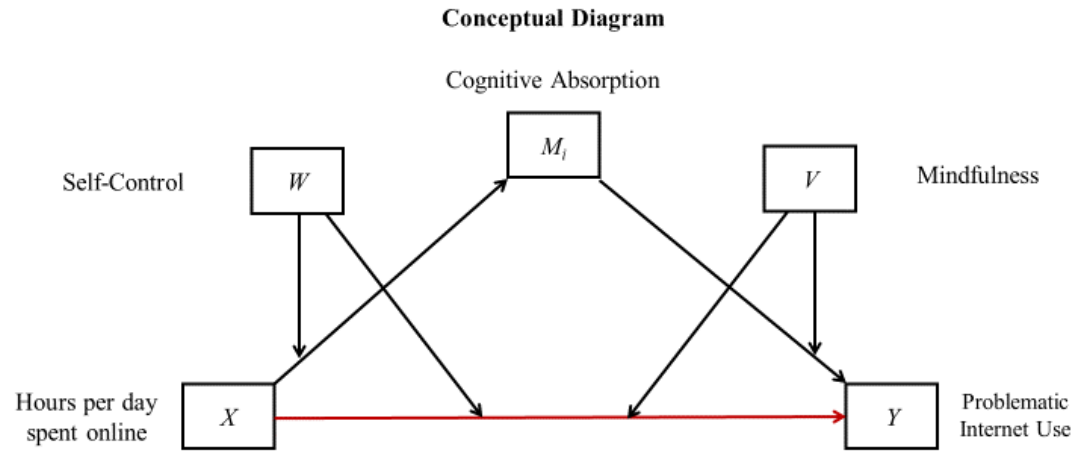

Figure 25: Graphical representation for older emerging adults of the significant relationship in H2 concerning the conceptual diagram of multiple moderated mediation hypothesis

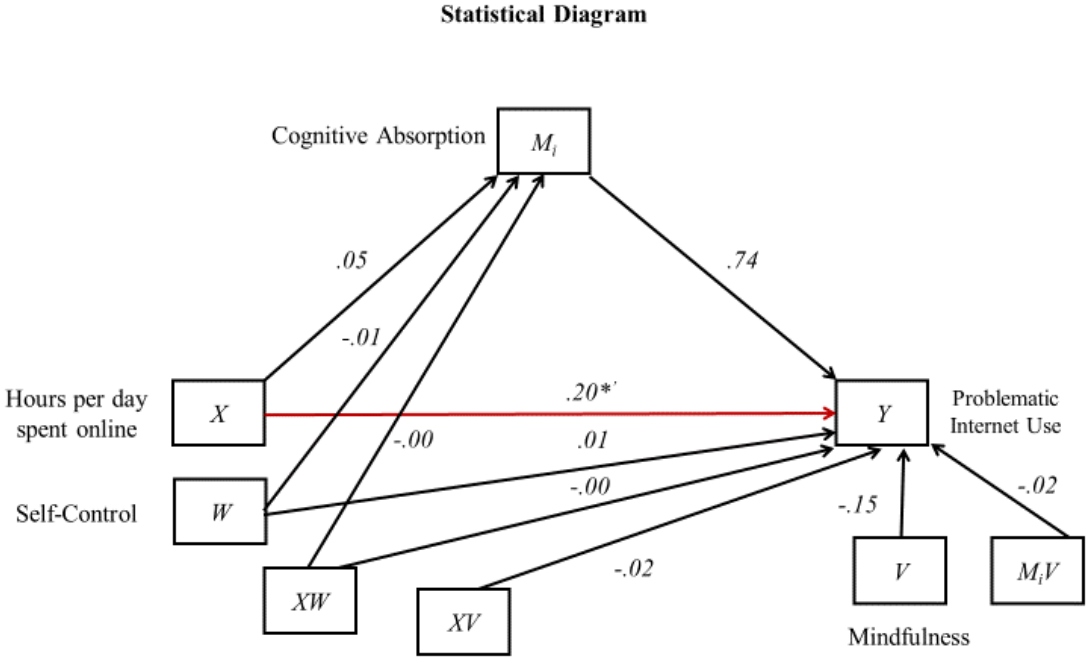

Figure 26: Graphical representation for older emerging adults with values of the significant relationship in H2 concerning the statistical diagram of multiple moderated mediation hypothesis

Model Summary					**Model Summary**				
R	.25				**R**	.62			
R^2	.06				**R^2**	.39			
MSE	.47				**MSE**	.80			
p	.02*				**p**	.00**			
	Outcome					**Outcome**			
	M: Cognitive Absorption					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	4.19	.67	6.23	.00**		.14	2.39	.06	.95
X: Hours per day spent online	.05	.05	.97	.33		.20	.09	2.37	.02*
W: Self-Control	-.01	.01	-.78	.44		.01	.02	.33	.74
XW: Hours per day spent online x Self-Control	-.00	.00	-.73	.46		-.00	.00	-.1.39	.16
					M: Cognitive Absorption	.74	.58	1.28	.20
					V: Mindfulness	-.15	.57	-.26	.79
					MV: Cognitive Absorption x Mindfulness	-.02	.14	-.15	.88
					XV: Hours per day spent online x Mindfulness	-.02	.02	-1.32	.19

Note ** p< .01 * p<.05

Table 17: H2 results of the multiple regression test regarding multiple moderated mediation older emerging adults' model

Adults

As observed for adolescents and younger emerging adults, cognitive absorption alone significantly positively affects PIU in adults. However, cognitive absorption is not a significant mediator of the model as a whole (Fig.27, 28, Tab.18). Moreover, self-control is a partial moderator of the model because it is negatively significant for both cognitive absorption and PIU. Furthermore, when self-control is associated with the number of hours per day spent online, it negatively predicts PIU.

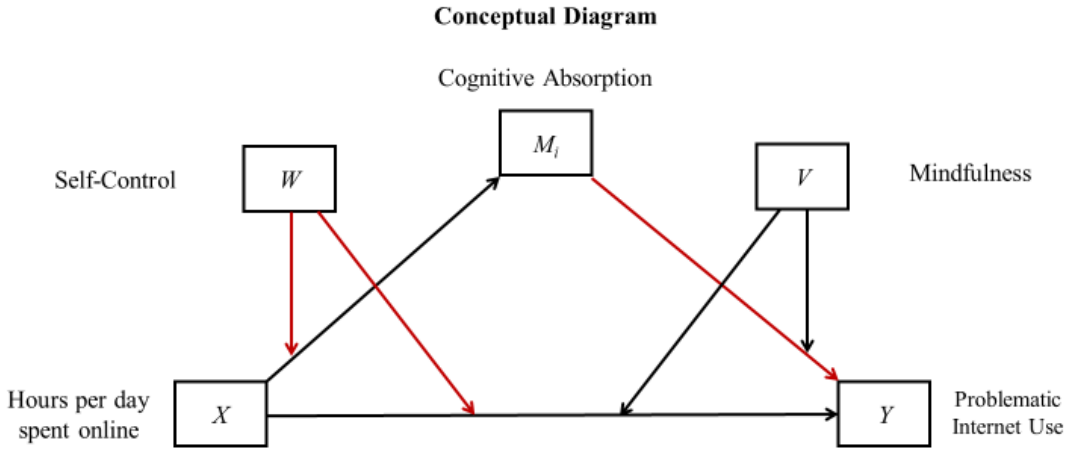

Figure 27: Graphical representation for adults of the significant relationship in H2 concerning the conceptual diagram of multiple moderated mediation hypothesis

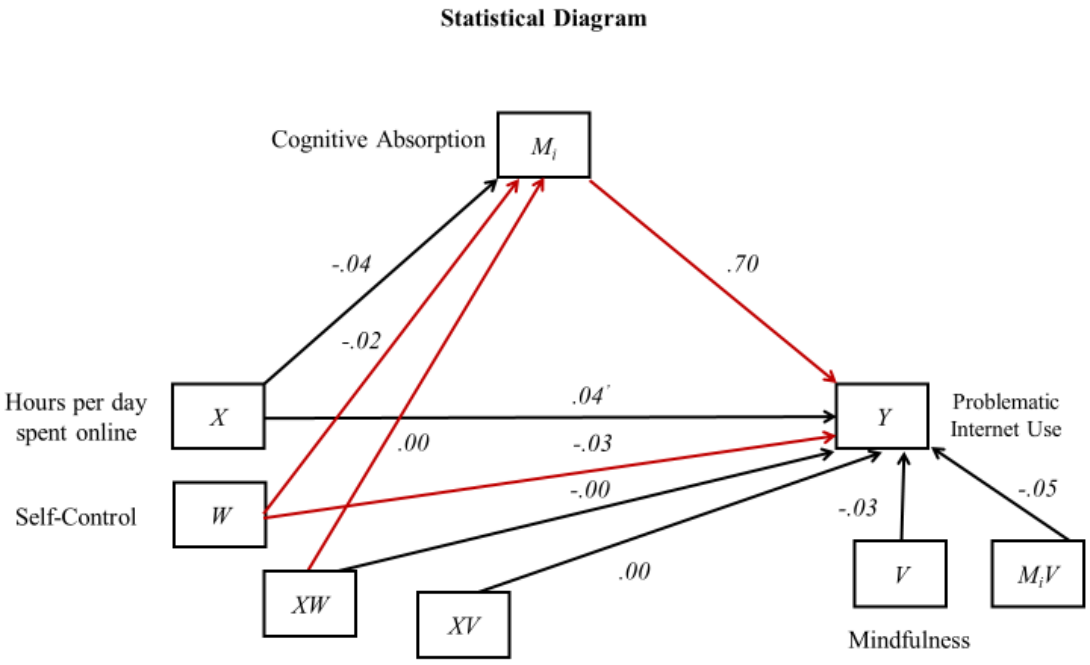

Figure 28: Graphical representation for adults with values of the significant relationship in H2 concerning the statistical diagram of multiple moderated mediation hypothesis

Unlike for younger emerging adults and older emerging adults, the number of hours per day spent online is not a directly significant predictor of PIU for adults. Furthermore, also in this case, the index of moderated moderated mediation is not significant because only some relationships are confirmed.

Model Summary					**Model Summary**				
R	.21				**R**	.53			
R^2	.05				**R^2**	.28			
MSE	.56				**MSE**	.81			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Cognitive Absorption					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	4.80	.28	17.1	.00**		1.58	1.03	1.53	.03
X: Hours per day spent online	-.04	.03	-1.44	.15		.04	.04	.91	.36
W: Self-Control	-.02	.01	-3.99	,00**		-.03	.01	-3.43	.00**
XW: Hours per day spent online x Self-Control	.00	.00	2.04	.04*		-.00	.00	-1.18	.24
					M: Cognitive Absorption	.69	.25	2.83	.00**
					V: Mindfulness	-.03	.02	-.14	.89
					MV: Cognitive Absorption x Mindfulness	-.05	.06	-.96	.34
					XV: Hours per day spent online x Mindfulness	.00	.01	.33	.74

Note ** p< .01 * p<.05

Table 18: H2 results of the multiple regression test regarding multiple moderated mediation older adults' model

H3. *The hours per day spent online (X) affect PIU (Y), through the mediation of Online Social-support (M_i) and the moderation of Self-Esteem (W) and Offline Social-support (V)*

Adolescents

The results show that the model is significant as a whole but that not all relationships are. Online social-support positively affects PIU. Moreover, when online social-support is associated with offline social-support, it negatively predicts PIU (Tab. 19 Fig.29, 30). However, online social-support is not a good mediator of this model as it does not present all significant relationships and the index of moderated moderated mediation is not significant. Furthermore, in this case, self-esteem is not a good mediator because it only predicts the direct relationship self-esteem/PIU. On the contrary, offline social-support is a good moderator in the relationship online social-support/PIU. Indeed, the index of conditional moderated mediation is significant.

Model Summary					**Model Summary**				
R	.24				**R**	.42			
R^2	.06				**R^2**	.18			
MSE	.96				**MSE**	1.70			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Online Social-support					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	2.30	.46	4.96	.00**		3.39	.89	3.80	.00
X: Hours per day spent online	.06	.04	1.37	.17		-.03	.06	-.42	.67
W: Self-Esteem	.03	.02	1.62	.10		-.11	.03	-3.61	.00**
XW: Hours per day spent online x Self-Esteem	-.00	.00	-.40	.69		.01	.00	1.87	.62
					M: Online Social-support	.96	.25	3.83	.00**
					V: Offline Social-support	.11	.21	.51	.61
					MV: Online Social-support x Offline Social-support	-.14	.06	-2.34	.02*
					XV: Hours per day spent online x Offline Social-support	-.01	.01	-.85	.40

Note ** p< .01 * p<.05

Table 19: H3 results of the multiple regression test regarding multiple moderated mediation for the adolescents' model

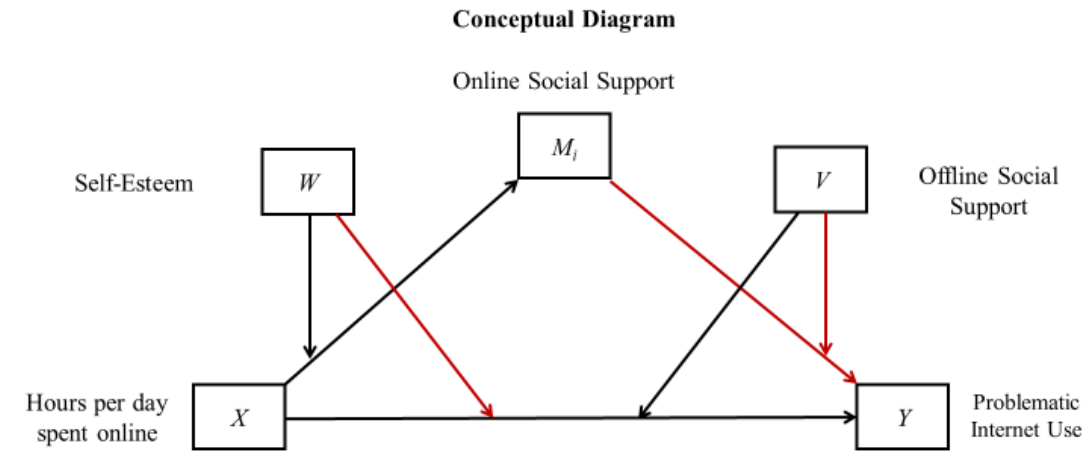

Figure 29: Graphical representation for adolescents of the significant relationship in H3 concerning the conceptual diagram of multiple moderated mediation hypothesis

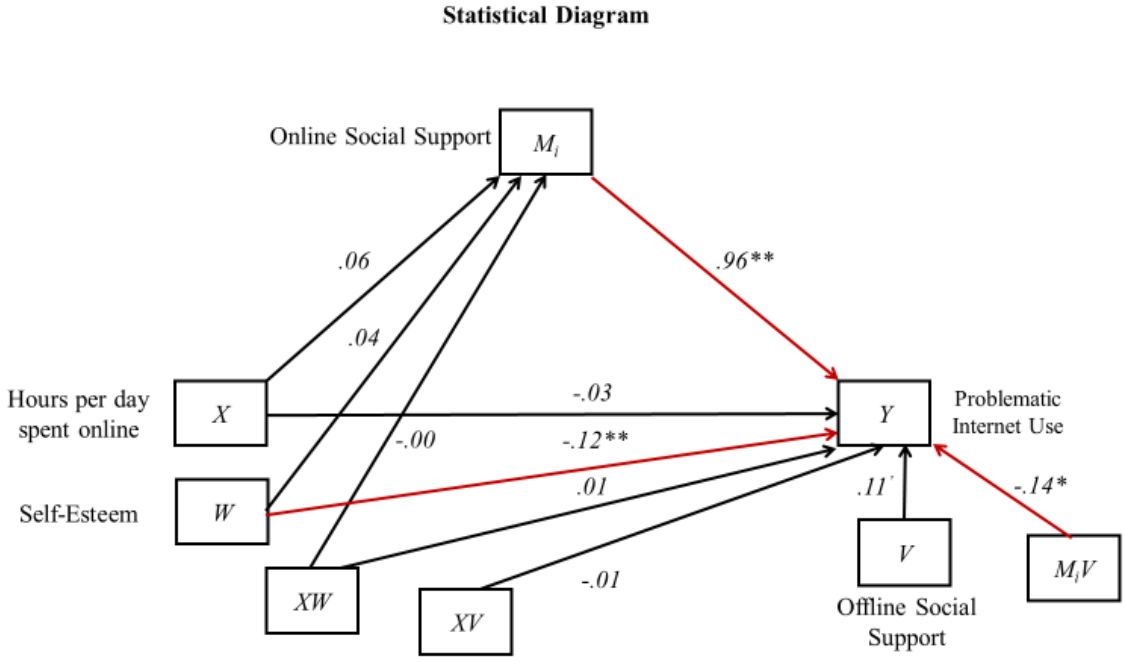

Figure 30: Graphical representation for adolescents with values of the significant relationship in H3 concerning the statistical diagram of multiple moderated mediation hypothesis

Younger Emerging Adults

As for the group of adolescents, the results for younger emerging adults show that the model as a whole is significant but that not all relationships are. Online social-support positively affects PIU. Moreover, when online social-support is associated with offline social-support, it negatively predicts PIU (Tab. 20 Fig. 31, 32). However, online social-support is not a good mediator of this model as it does not present all significant relationships and the index of moderated moderated mediation is not significant. Furthermore, in this case, self-esteem is not a good mediator as it only predicts the direct relationship self-esteem/PIU (low levels of self-esteem correspond to high levels of PIU). On the contrary, offline social-support is a good moderator in the relationship online social-support/PIU. Indeed, the index of conditional moderated mediation is significant.

Model Summary					**Model Summary**				
R	.16				**R**	.54			
R^2	.03				**R^2**	.29			
MSE	1.07				**MSE**	1.25			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Online Social-support					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
constant	3.13	.47	6.63	.00**		3.78	.80	4.75	.00**
X: Hours per day spent online	-.03	.04	-.77	.44		.00	.04	.10	.92
W: Self-Esteem	-.01	.02	-.34	.73		-.13	.02	5.24	.00**
XW: Hours per day spent online x Self-Esteem	.00	.00	1.44	.15		.00	.00	1.60	.11
					M: Online Social-support	1.03	.20	5.12	.00**
					V: Offline Social-support	.08	.20	.45	.65
					MV: Online Social-support x Offline Social-support	-.17	.05	-3.53	.00**
					XV: Hours per day spent online x Offline Social-support	-.00	.01	-.35	.73

Note ** p< .01 * p<.05

Table 20: H3 results of the multiple regression test regarding multiple moderated mediation for the younger emerging adults' model

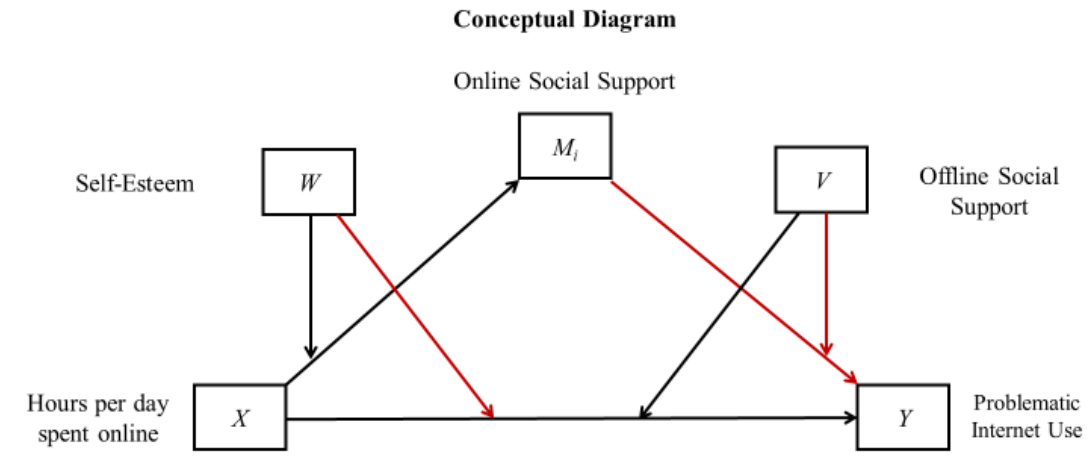

Figure 31: Graphical representation for younger emerging adults of the significant relationship in H3 concerning the conceptual diagram of multiple moderated mediation hypothesis

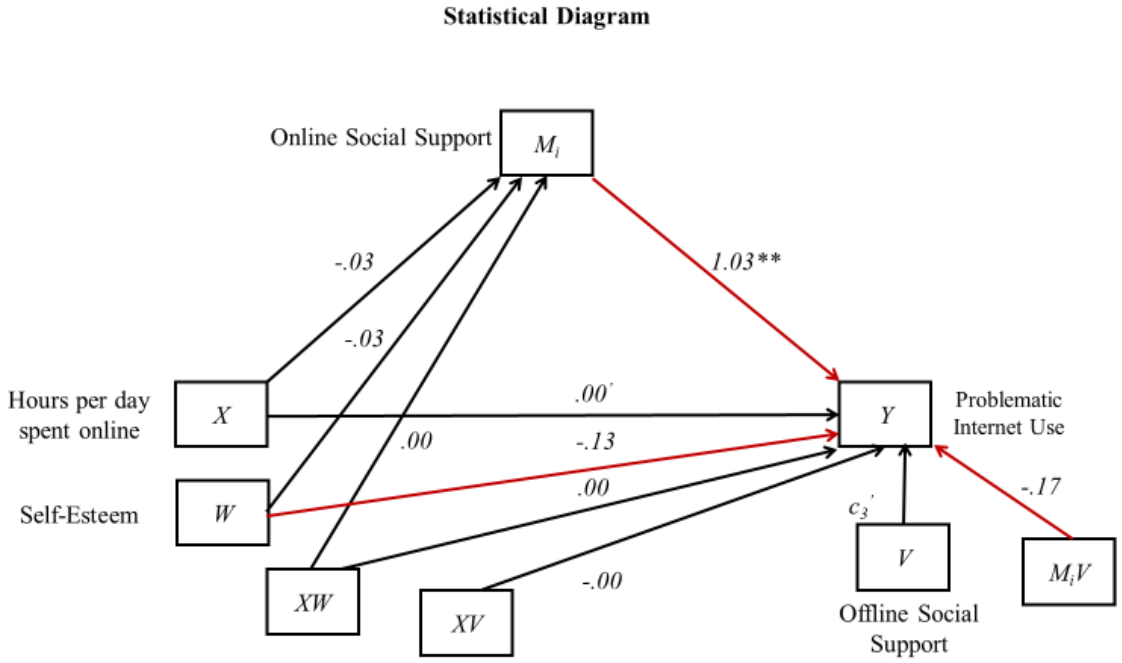

Figure 32: Graphical representation for younger emerging adults with values of the significant relationship in H3 concerning the statistical diagram of multiple moderated mediation hypothesis

Older Emerging Adults

There are no significant relationships in this model for older emerging adults.

Adults

The adults group presents just two significant relationships (Tab.21, Fig.33, 34). Firstly, as for adolescents and younger emerging adults, online social-support positively predicts PIU. Moreover, online social-support negatively predicts PIU when it is associated with offline social-support. Indeed, offline social-support is a good mediator for this model because the index of conditional moderated mediation is significant. However, the model as a whole is not significant because the index of moderated moderated mediation is not significant.

Model Summary					**Model Summary**				
R	.17				**R**	.40			
R^2	.03				**R^2**	.16			
MSE	1.06				**MSE**	.94			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Online Social-support					**Y: Problematic Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	2.40	.50	4.85	.00**		1.46	.65	2.24	.02
X: Hours per day spent online	-.01	.06	-.30	.77		.08	.05	1.42	.16
W: Self-Esteem	.00	.02	.08	.93		-.04	.02	-1.89	.06
XW: Hours per day spent online x Self-Esteem	.00	.00	.82	.41		-.00	.00	-.81	.41
					M: Online Social-support	.95	.20	4.85	.00**
					V: Offline Social-support	.16	.13	1.22	.22
					MV: Online Social-support x Offline Social-support	-.18	.05	-3.71	.00**
					XV: Hours per day spent online x Offline Social-support	-.00	.01	-.40	.71

Note ** p< .01 * p<.05

Table 21: H3 results of the multiple regression test regarding multiple moderated mediation for the adults' model

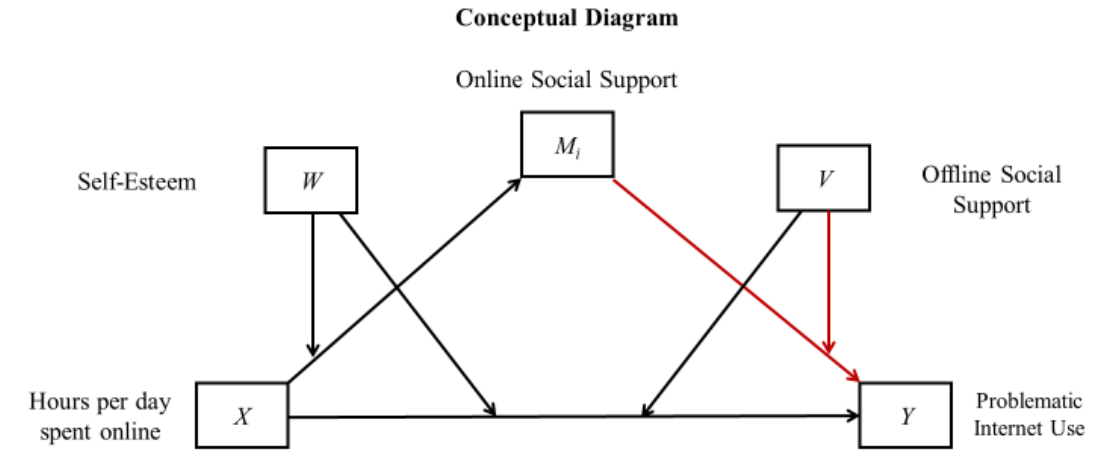

Figure 33: Graphical representation for adults of the significant relationship in H3 concerning the conceptual diagram of multiple moderated mediation hypothesis

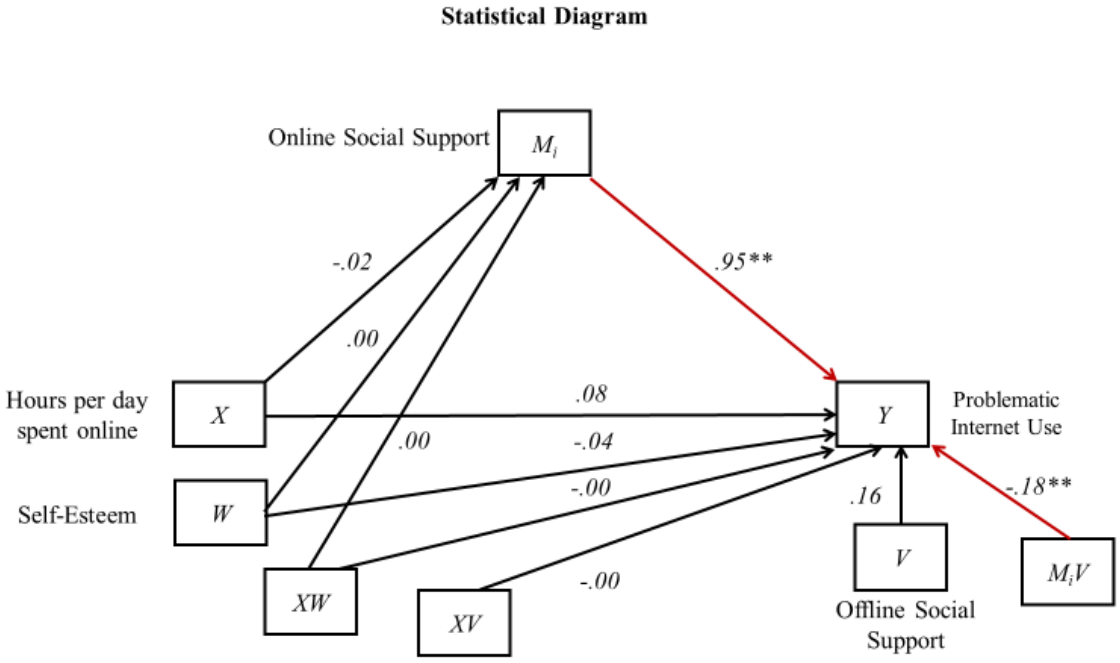

Figure 34: Graphical representation for adults with values of the significant relationship in H3 concerning the statistical diagram of multiple moderated mediation hypothesis

H4. *The number of hours per day spent online (X) affects FIU (Y), through the moderation of gender (M) and Age (W)*

The results show that the model is significant, but the total amount of hours per day spent online is not a significant direct predictor of FIU (Tab. 22; Fig. 35).

Model summary				
R	.33			
R^2	.11			
MSE	36.3			
p	.00**			
	Outcome			
	Y: Functional Internet Use - FIU			
	B	**SE**	**t**	***p***
Constant	8.45	.91	9.27	.00**
X: Hours per day spent online	-.01	.09	-.13	.90
W: Age	.09	.02	.10	.00**
M: Gender	1.64	.47	3.50	.00**
XW: Hours per day spent online x Age	.01	.00	2.75	.01*
XM: Hours per day spent online x Gender	.06	.05	1.28	.20

Note ** p< .01 * p<.05

Table 22: Results of multiple regression test regarding multiple moderation model of H4

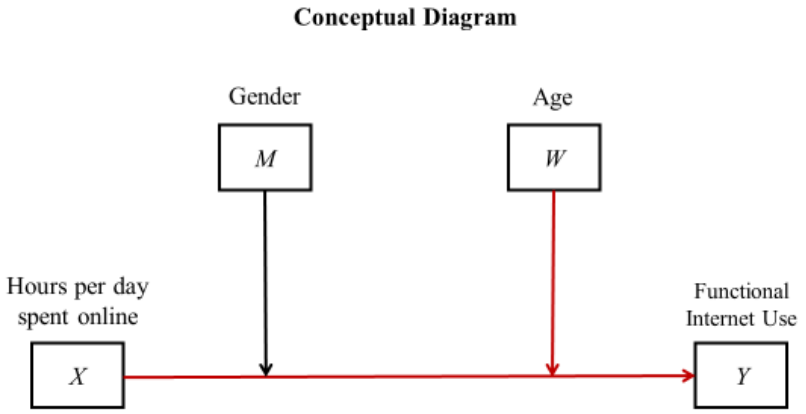

Figure 35: Graphical representation of the significant relationship in H4 concerning the conceptual diagram of multiple moderation hypothesis

The age is the total significant mediator in this relationship, including conditional relationships (age * hours per day spent online). Moreover, gender as a single mediator is significant, though not when it is associated with age (Fig. 36).

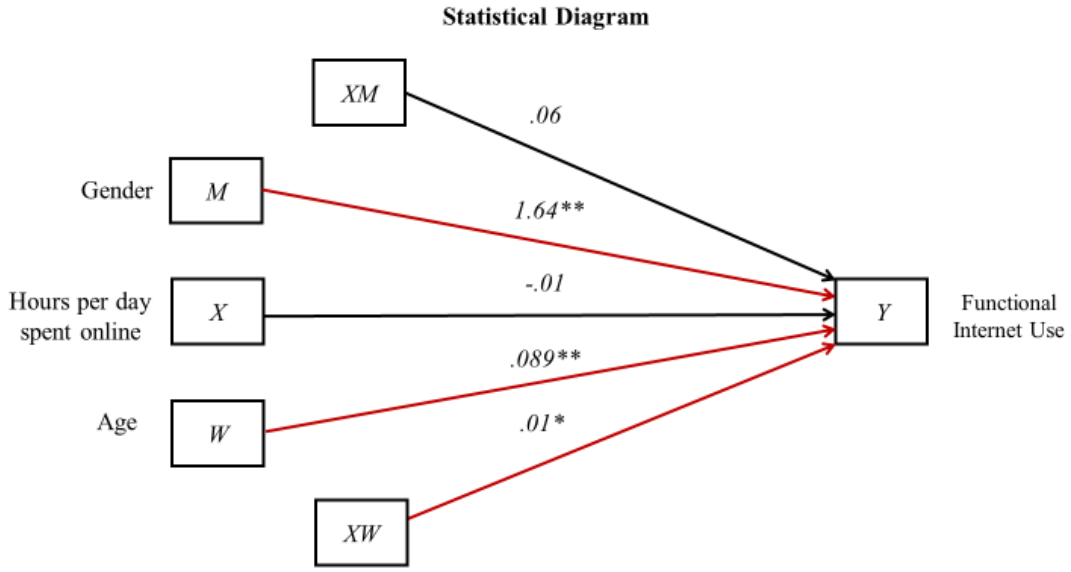

Figure 36: Graphical representation of the significant relationship in H4 concerning the statistical diagram of multiple moderation hypothesis

H5. *Online-social-support (X) affects FIU (Y) through the mediation of NOCs (M_i)*

Adolescents

The results show that online social support positively affects NOCs (Tab.23, Fig. 37, 38). Moreover, in this relationship the covariate which influences NOCs is offline acquaintances. Moreover, online social-support positively predicts FIU with the covariation of offline friends. The mediation effect of NOCs in this case is not significant, while the covariates are significant.

Model Summary					**Model Summary**				
R	.18				**R**	.32			
R^2	.03				**R^2**	.10			
MSE	8538125				**MSE**	34.4			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Number of Online Contacts					**Y: Functional Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
Constant	-502	555	-.91	.37		6.23	1.12	5.60	.00**
X: Online Social-support	377	124	3.03	.00**		1.36	.25	5.38	.00**
Covariate: Offline Friends	-10.3	98.1	-.11	.92		.69	.20	3.49	.00**
Covariate Offline Acquaintances	236	99	2.40	.02*		.34	.20	1.71	.08
					M: Number of Online Contacts	.00	.00	-.51	.61

Note ** p< .01 * p<.05

Table 23: H5 results of the multiple regression test regarding mediation for the adolescents' model with covariates

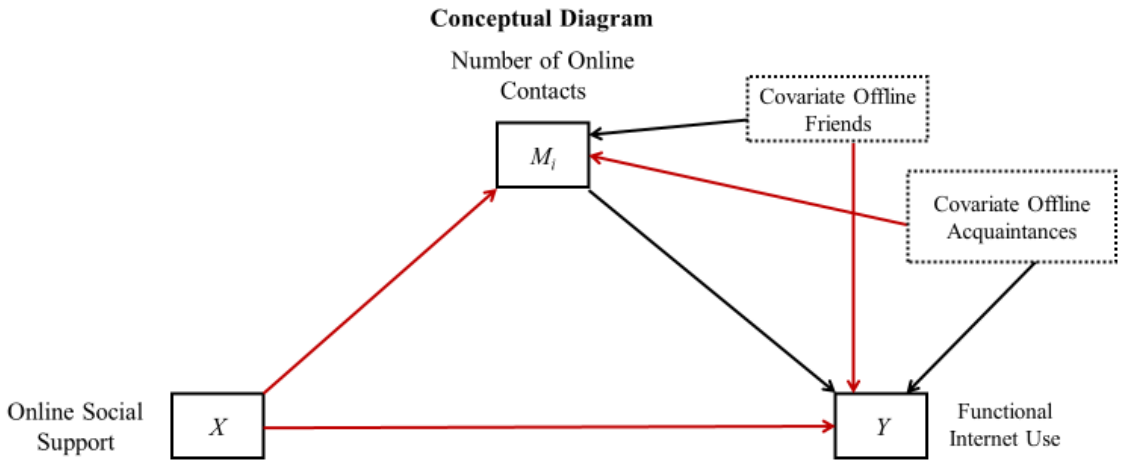

Figure 37: Graphical representation for adolescents of the significant relationship in H5 concerning the conceptual diagram of mediation hypothesis with covariates

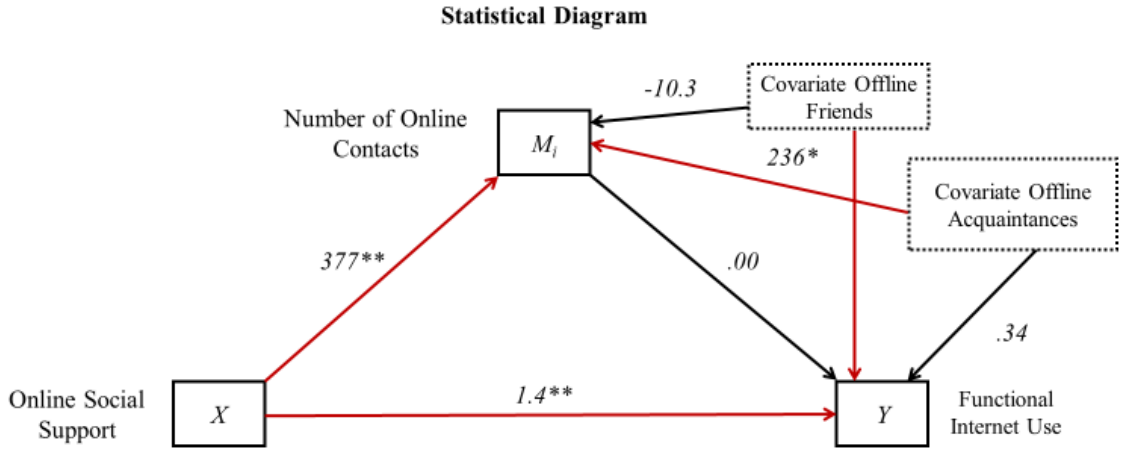

Figure 38: Graphical representation for adolescents of the significant relationship in H5 concerning the statistical diagram of mediation hypothesis with covariates

Younger Emerging Adults

Unlike the case of adolescents, the direct relationship online social-support/NOCs is not significant for the younger emerging adults, although the covariate of offline acquaintances is significant for NOCs (Tab.24, Fig.39, 40). Furthermore, online social-support positively directly predicts FIU: high levels of online social-support correspond to high levels of FIU, with the covariation of offline acquaintances. NOCs are not a good mediator of the model in this case either.

Model Summary					**Model Summary**				
R	.14				**R**	.16			
R^2	.02				**R^2**	.03			
MSE	4666960				**MSE**	32.6			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Number of Online Contacts					**Y: Functional Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
constant	470	353	1.33	.18		10.1	.94	10.9	.00**
X: Online Social-support	-38.9	81.8	-.48	.63		.53	.22	2.44	.02*
Covariate: Offline Friends	83.1	83.2	.99	.32		-.06	.22	-.27	.79
Covariate Offline Acquaintances	172	62.9	2.74	.01*		.48	.17	2.82	.01*
					M: Number of Online Contacts	.00	.00	-1.73	.08

Note ** p< .01 * p<.05

Table 24: H5 results of the multiple regression test regarding mediation for the younger emerging adults model with covariates

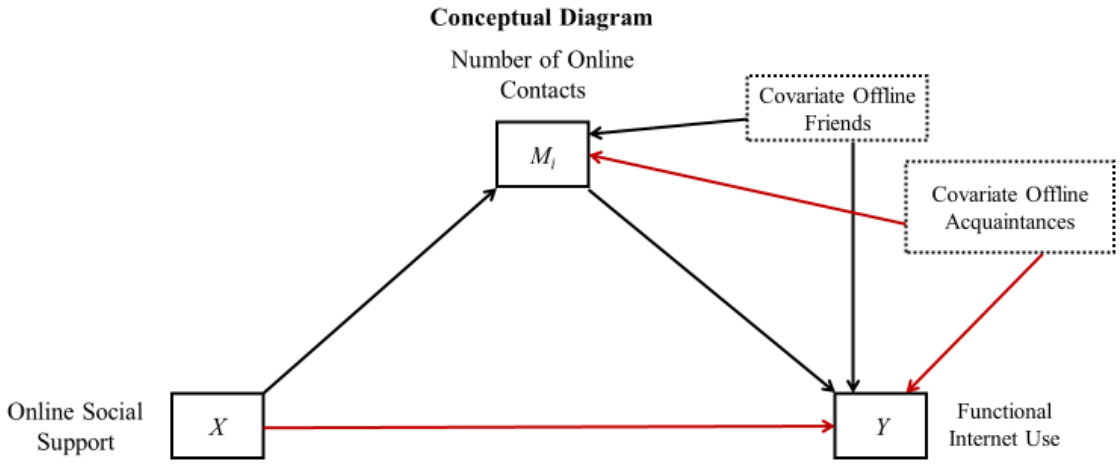

Figure 39: Graphical representation for younger emerging adults of the significant relationship in H5 concerning the conceptual diagram of mediation hypothesis with covariates

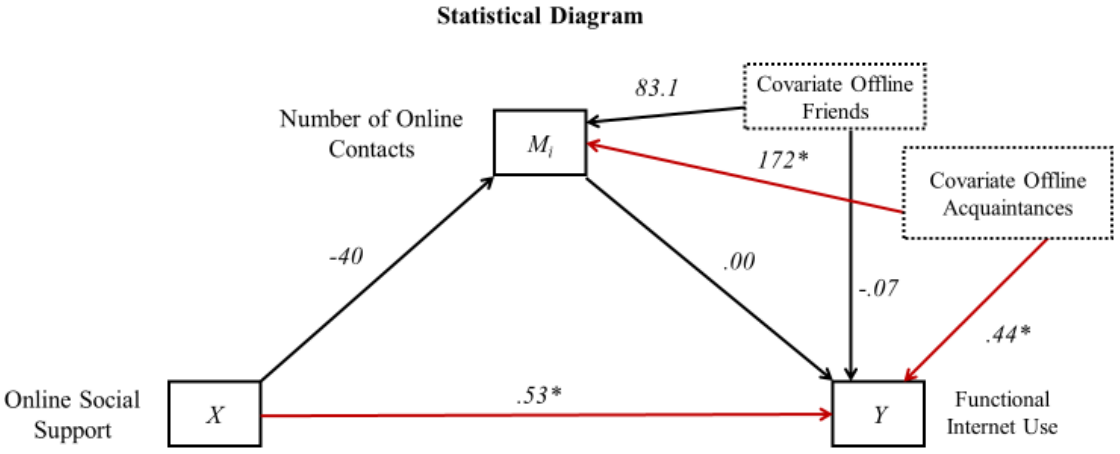

Figure 40: Graphical representation for younger emerging adults of the significant relationship in H5 concerning the statistical diagram of mediation hypothesis with covariates

Older Emerging Adults

As in the case of H3, there are no significant relationships in this model for older emerging adults.

Adults

The results show that there is not a significant direct relationship between online social-support and NOCs (Tab.25, Fig.41, 42). On the other hand, offline friends seem to play an important role in NOCs. Moreover, offline social-support does not predict FIU. The only significant relationship is that concerning the covariate of the offline acquaintances which is a significant positive indicator of FIU. As previously observed, NOCs are not a significant mediator in this model.

Model Summary					**Model Summary**				
R	.13				**R**	.13			
R^2	.02				**R^2**	.02			
MSE	23601570				**MSE**	44.7			
p	.01*				***p***	.02			
	Outcome					**Outcome**			
	M: Number of Online Contacts					**Y: Functional Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
constant	273	217	1.26	.21		14,1	.95	14.9	.00**
X: Online Social-support	78.7	56.2	1.40	.16		-.11	.25	-.47	.64
Covariate: Offline Friends	154	55.3	2.80	.01*		.22	.24	.89	.38
Covariate Offline Acquaintances	-26.6	40.8	-.65	.52		.48	.18	2.71	.01*
					M: Number of Online Contacts	.00	.00	.49	.63

Note ** p< .01 * p<.05

Table 25: H5 results of the multiple regression test regarding mediation for the adults' model with covariates

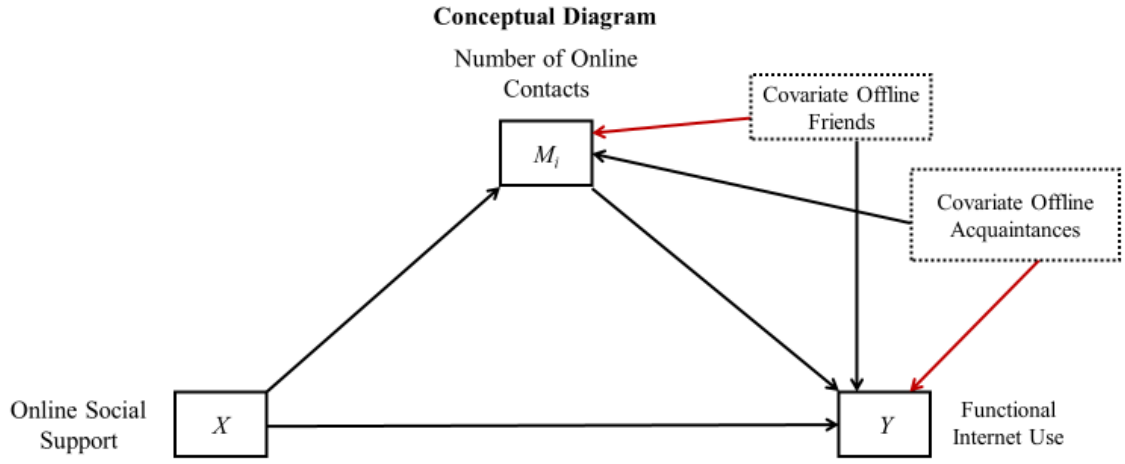

Figure 41: Graphical representation for adults of the significant relationship in H5 concerning the conceptual diagram of mediation hypothesis with covariates

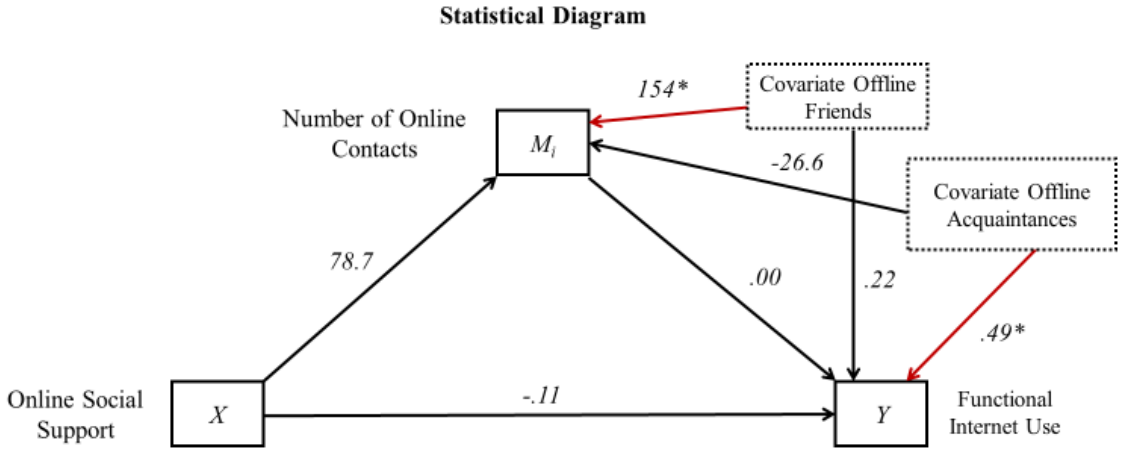

Figure 42: Graphical representation for adults of the significant relationship in H5 concerning the statistical diagram of mediation hypothesis with covariates

H6. *Job satisfaction (X) affects FIU (Y) through the mediation of life satisfaction (Mi) and the moderation of age (W) and gender (Z).*

The results show that job satisfaction is a direct positive predictor of life satisfaction, but that it is a direct negatively predictor of FIU (Tab. 26, Fig.43). Moreover, when associated with age, job satisfaction positively predicts FIU.

Model Summary					**Model Summary**				
R	.48				**R**	.29			
R^2	.23				**R^2**	.09			
MSE	1.16				**MSE**	37.2			
p	.00**				***p***	.00**			
	Outcome					**Outcome**			
	M: Life Satisfaction					**Y: Functional Internet Use**			
	B	**SE**	**t**	***p***		**B**	**SE**	**t**	***p***
constant	2.51	.37	6.72	.00**		10.7	2.22	4.83	.00**
X: Job Satisfaction	.26	.05	4.73	.00**		-.92	.32	-.2.87	.00**
W: Age	-.00	.01	-.18	.86		.07	.05	1.39	.16
Z: Gender	-.06	.19	-.33	.73		-.49	1.05	-.46	.65
M: Life Satisfaction						.90	.30	2.98	.00**
XW: Job Satisfaction x Age	.00	.00	.85	.39		.02	.01	3.47	.00**
XZ: Job Satisfaction x Gender	.03	.03	.99	.32		.44	.15	2.82	.01*
					MW: Life Satisfaction x Age	-.03	.01	-.2.67	.01*

Note ** p< .01 * p<.05

Table 26: H6 results of the multiple regression test regarding multiple moderated mediation model

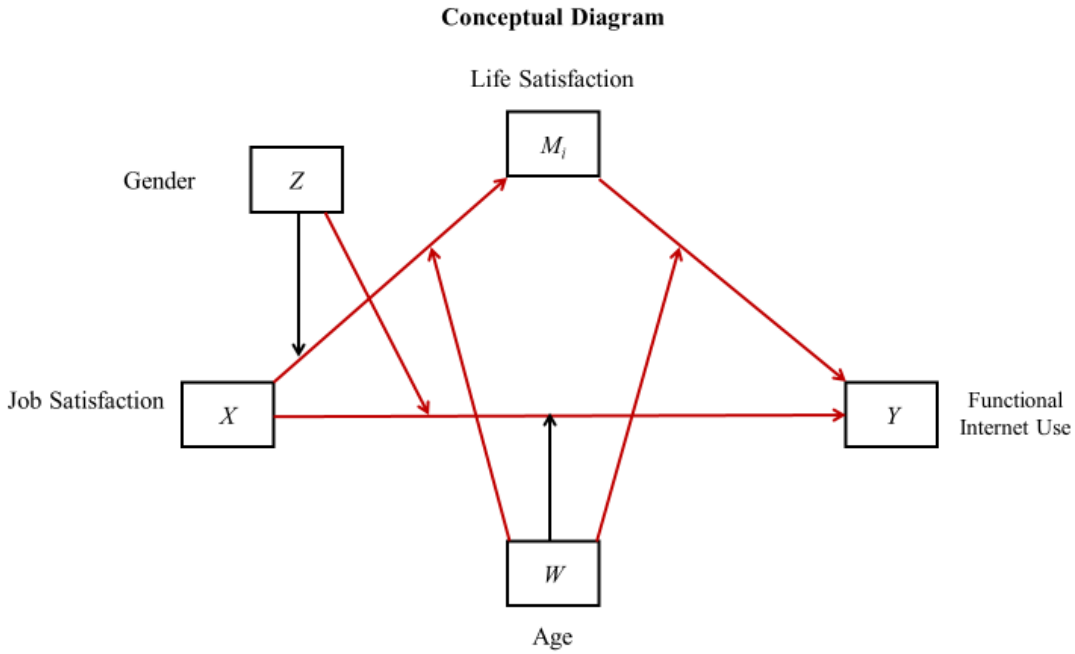

Figure 43: Graphical representation of the significant relationship in H6 concerning the conceptual diagram of multiple moderated mediation hypothesis

Life satisfaction positively predicts FIU (Fig.44). Furthermore, life satisfaction negatively affects FIU when associated with age. It is possible to say that life satisfaction is a good mediator in this model, but it is not significant for all relationships, meaning that the index of moderated moderated mediation is not significant. Gender is a significant moderator in this model and it predicts FIU, but only when associated with age.

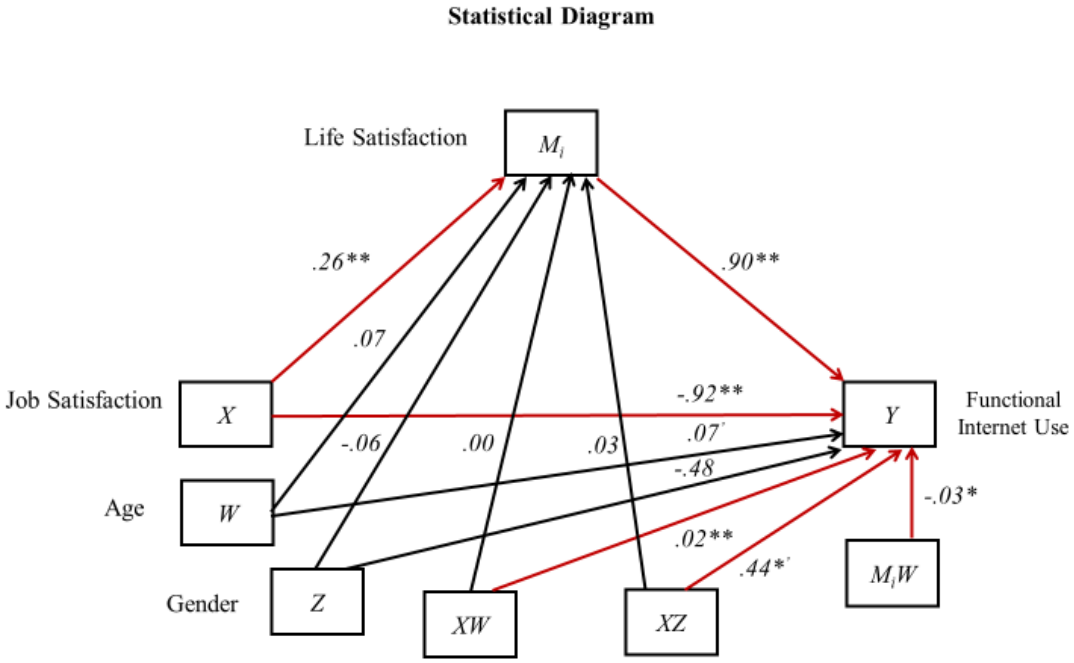

Figure 44: Graphical representation of the significant relationship in H6 concerning the statistical diagram of multiple moderated mediation hypothesis

DISCUSSION AND CONCLUSION

The goal of this research goes beyond the dualism which considers the Internet either good or bad since existing literature presents an excessive imbalance towards the problematic/addiction side. Thus, the research tries to answer the question: "when, how and under which conditions is Internet use either problematic or functional for people?". In order to achieve this objective, the study considers both the functional (the Internet as a functional organ) and problematic (the Internet leading to an inverse instrumentality) use of the Internet. Following the hypotheses made, the results verified these aspects in all age groups: adolescents, younger emerging adults, older emerging adults and adults. All the hypotheses were partially confirmed, and some of the relationships that were shown in the models were confirmed. The correlations analysis and the ANOVA allowed us to gain a deeper understanding of the results obtained.

Considering the first hypothesis (H1), the results show that as age decreases, the hours spent online increase, and consequently PIU increases (Tab. 14; Fig. 19). The most significant difference, however, is between younger emerging adults and older emerging adults, in favor of the latter. Indeed, older emerging adults use the Internet for more hours per day than all the other age groups do, followed by younger emerging adults, adolescents and adults. Furthermore, gender does not seem to affect the relationship between hours per day spent online and PIU; it is, however, only a significant mediator of this relationship when it is associated with age (Fig. 20). Indeed, adolescent males use the Internet more and they are more at risk of reaching an inverse instrumentality than all the other male and female age groups. The H2 multi moderation model shows that, for adolescents, increasing levels of cognitive absorption associated with low levels of mindfulness also determine an increase in PIU (Tab. 15, Fig. 21). Conversely, PIU decreases with high levels of self-control (Fig. 22). Because younger emerging adults spend many hours per day online, their level of cognitive absorption increases and they consequently present higher levels of PIU, but still lower than those of adolescents (Tab. 16, Fig. 23). Furthermore, as the hours per day spent online increase, mindfulness decreases and consequently PIU increases; inversely, high levels of self-control are associated with low levels of PIU (Fig. 24). Older emerging adults present only one significant relationship, relating to

the number of hours per day spent online: the more hours a person spends per day online, the more PIU increases (Fig. 25, 26, Tab. 17). As with adolescents and younger emerging adults, high levels of cognitive absorption also correspond to high levels of PIU for adults (Fig.27, 28, Tab. 18). Moreover, adults with low self-control present high levels of cognitive absorption and high PIU: the lower their self-control, the more hours they spend online during a day, and the more likely they are to present higher levels of cognitive absorption.

The multi moderation model tested in H3 showed that, for adolescents, when online social-support is high, PIU is high. Moreover, when adolescents have high levels of online social-support (the highest of all age groups), they present low levels of offline social-support (the lowest of all the age groups) and they consequently have high levels of PIU. This result is also explained by the low levels of self-esteem adolescents have and this is associated with high levels of PIU (Tab. 19, Fig. 29, 30). Following the moderated moderated mediation test and the ANOVA analyses, younger emerging adults were found to have the highest online social-support after adolescents, but they present high levels of offline social support and the lower levels of self-esteem compared to adolescents, followed by older emerging adults and adults. In this regard, according to the findings of Zywica and Danowski (2008), the hypothesis of social compensation was confirmed: people with lower self-esteem and those who have low scores in offline social-support (adolescents and younger emerging adults) are more at risk of using the Internet in a problematic way. Those who have fewer connections and few interests and activity in their offline lives are more likely to use the Internet in order to compensate for this lack and, in this case, it is possible to talk about an Internet use as a process of inverse instrumentality (Ekbia & Nardi, 2012). Finally, the adults in the H3 model test (as with previous groups) show that high levels of online social-support correspond to high levels of PIU, and adults who present low online social-support and high offline social-support, have low levels of PIU compared those observed in adolescents and younger emerging adults. (Tab. 21, Fig. 33, 34).

Turning now to the H4 model of FIU, unlike the observations made for the H1 model of multiple moderation in PIU, in general, the more age increases, the fewer hours per day spent online decrease and, consequently, the more FIU increases (Fig. 36). Indeed, according to the ANOVA test, adults have the highest scores in FIU followed by older

emerging adults, adolescents and, lastly, younger emerging adults. Moreover, gender affects the relationship between the number of hours per day spent online and FIU (Fig. 36). Males of all ages have the highest levels of Internet use (considering the number of hours per day) and higher FIU scores than females (of all ages).

Concerning H5, for adolescents' high levels of online social-support increase NOCs which are mainly made up of offline acquaintances. (Tab. 23, Fig. 37, 38). Moreover, according to the results, when adolescents present high levels of online social-support, also characterized by their offline friends, they tend to have FIU. In summary, adolescents' NOCs are mainly composed of offline acquaintances, though they do reach FIU if their online social-support is made up of the network of friends they have in their offline lives. In this regard, adolescents use WhatsApp more both in their free time and during their studying/working time compared to younger emerging adults and older emerging adults. Unlike those of adolescents, the NOCs of younger emerging adults are mainly characterized by offline acquaintances (Tab. 24, Fig. 39, 40). According to the ANOVA analyses, younger emerging adults use Facebook more than adolescents and adults. These results confirm the hypothesis that the intensity of the use of SNSs is positively associated with the formation and maintenance of bridging social capital and bonding social capital, with the strongest relationship found with bridging social capital (Mazzoni & Iannone, 2014). Younger emerging adults are facing a period of transition from school to university or from school/university to work (see Tuomi-Gröhn & Engeström, 2003; Arnett, 2000, 2012, 2015; Arnett & Fishel, 2013; Arnett & Tanner, 2006). According to Benvenuti, Mazzoni and Piobbico (2016), during these transitions the contacts that they have online are central. The findings of this research show that offline acquaintances also play an important role. For instance, if one of a person's offline acquaintances (who are also part of their online networks) has already gone to university he or she may be able to provide information to that person about how to find an apartment, or simply which website could help them find a roommate. Moreover, someone who lives in another city could give them advice about the best channels to go through in order to find work. In this regard, online social support could also lead to FIU for adults, though in a different way than for the other groups as their offline friends compose a significant part of their NOCs. Adults use the Internet in a functional way when they are in contact with

their offline acquaintances. In this regard, it could be relevant to focus our attention on the fact that adults use e-mail more than other age groups. Online contacts that adults use the most are those which coincide with their online acquaintances. Because adults use e-mail more than all other age groups, and e-mail is currently the most used tool in working environments (unlike SNSs which are more informal), it is clear that those acquaintances are very likely to be co-workers. Indeed, a possible interpretation of adults' FIU can be closely connected to the working communication that they have with their colleagues who are part of their online social support.

The final hypothesis, H6, shows that high levels of job satisfaction correspond to high levels of life satisfaction, and the lower a person's job satisfaction, the higher his/her FIU (Tab. 26, Fig.43). In this regard, also according to the ANOVA analyses, as age increases, job satisfaction increases (adults have the highest levels of job satisfaction) and consequently FIU increases. A relevant finding is that people with low levels of job satisfaction (in this sample younger and older emerging adults) show high levels of FIU. However, this could be connected to the transitional phases they are facing which push them to search around for new work positions, also by using the Internet. In this regard, younger and older emerging adults use the Internet as a functional organ as they search for possible job positions online, thus leading them towards FIU. Furthermore, high levels of life satisfaction correspond to high levels of FIU, and the lower the age, the lower life satisfaction (Fig. 44). Despite these results, those who present the lowest life satisfaction are the younger and older emerging adults (because of the many transitions, the lack of stability and the search for work), followed by adolescents and adults. Finally, concerning gender differences, for males, FIU increases as age increases: adult males present higher levels of FIU compared to females of all age groups.

The correlations and the ANOVA tests reveal one relevant result concerning the use of Instagram and YouTube. Adolescents use these SNSs more than the other groups. This means that adolescents prefer apps/web tools which include very little written interaction (such as text messages/comments), but which allow them to show themselves to millions of users/followers: they want to show their personal story, their personal life. For instance, Instagram features a dedicated section called 'your story'

and, in a few seconds of video, it is possible to show what a person is doing or has done.

Finally, one last curious aspect which needs attention is that concerning the checking for, replying to text messages and sending updates in online profiles on SNSs/Apps. In this regard, adolescents and adults have similar scores in all three behaviors. Considering also the data on the use of WhatsApp (both in free time and studying/working time), when adults use this application they check, send and respond to notifications like adolescents do. One possible interpretation concerns the fact that, while adolescents use these applications/web tools to interact with friends and peer groups, adults often use these same applications to send messages to their children, or for WhatsApp groups of the school of their children, or to update others on what they are doing, or when they will come back home after meeting friends. The current phenomenon of parental school groups on WhatsApp could be a part of the interpretation that one can give to these results.

In summary, this research sheds light on the dynamics that can lead to a functional or a problematic use of the Internet, both in the offline and online lives of all age groups analyzed. Two aspects are particularly relevant. The first concerns offline social-support, online social-support and self-esteem, which are the factors to which it is necessary to pay more attention, especially for adolescents, who are going through the most important phase of physical and psychological change, in order to avoid a possible misuse of the Internet or any risky behavior that may compromise their reputation, both online and offline (e.g. spreading nude photos). The second concerns younger emerging adults. The most relevant result is the use of online contacts in a functional way during transitions and in order to look for work (this also applies to older emerging adults).

THEORETICAL AND PRACTICAL IMPLICATIONS

Although much research has highlighted the negative impact of online life on human development (i.e. Caplan, 2005; Davis, 2001; Young, 2004), studies have also found that online life has a positive effect on the offline one (Barker, 2009; Ellison, Steinfield & Lampe, 2007; Benvenuti, Mazzoni, & Piobbico, 2016; Mazzoni & Iannone, 2014; Mazzoni, Baiocco, Cannata & Dimas, 2016; Stern & Taylor, 2007; Valkenburg & Peter, 2009). The results described in this research show which factors and relationships it is necessary to act on in order to prevent PIU on the one hand, and to promote FIU on the other. These findings have a transversal application that allows their use in educational and scholastic contexts of every level, but also in working and family situations. Concerning its theoretical implications, this research has partly filled a gap in literature which has thus far been excessively unbalanced towards PIU. Indeed, the results regarding FIU show how the Internet (and its applications) could be used as a functional organ in daily activities (e.g. work and free time). They represent a tool to support activities for adolescents and younger emerging adults. In this regard, the NOCs plays an important role for younger emerging adults in facing life's challenges and changes, such as moving to another city to study or for work. Social support (online and offline), on the other hand, plays an important role for adolescents, helping them to develop self-esteem and self-control. In this regard, as mentioned previously, it is necessary to prevent risky behavior, especially in adolescents, but also in children who attend primary and secondary schools. It is necessary to promote meetings/lessons to inform schoolchildren, their parents (family level) and their teachers (school level) about what constitutes risky behavior which could also lead to crime (e.g. the ‘haters’ phenomenon, the sending nude photos between underage people). Moreover, concerning the practical implications for emerging adults, these results could help universities, companies and traditional job search channels (e.g. employment agencies), to further promote informal information dissemination tools (e.g. pages on SNSs), compared to traditional institutional/professional media (e.g. company website, university website). This should have the aim of raising awareness about a more informed use and warning people against the possible risks deriving from a dysfunctional use of the Internet. Finally, for adults, the results of this research could inform and aid companies in starting training courses aimed at promoting the

correct use of technology, which could in turn improve the work-life balance and provide indications on how to use technology in a functional way in the family.

LIMITS

This research aimed to address a gap in literature by providing an understanding of relationships between the online and offline life, trying to balance the excessive disparity of previous research focused on the pathological side of human-technology interactions (i.e. Internet Addiction). In this regard, the main goal was to focus attention not only on understanding which factors determine PIU, but also on those factors that allow people to integrate it into FIU in order to achieve the goals that characterize their daily activities. This perspective, which was born in the wider field of positive psychology (Riva, 2012; Seligman, 2004), could have important implications for the improving the effectiveness of human functions in everyday contexts, thanks to the attention placed on the awareness of the problematic and functional aspects of the Internet. Nonetheless, this study presents three kinds of limitation: (1) sample limitations, (2) structural limitations and (3) methodological limitations. The sample limitations are a direct consequence of the data collection method. Although the number of participants is high for statistical purposes, it is not representative of the large and diverse population to which it refers. Specifically, there was a homogeneity problem in the sample of older emerging adults, which is smaller than the samples for the other age groups analyzed (adolescents, younger emerging adults and adults, which were homogeneous).

The structural limitations are due to the nature of the phenomenon studied. The Internet is a huge thing; it has entered the lives of most people pervasively and in many different aspects. Moreover, the Internet changes extremely rapidly: in 15 years it has passed from Web 1.0 to 2.0 to 3.0 and it is now in its 4.0 phase which means that the applications on the Web have the goal of connecting people automatically, based on the activities they are doing. The Web 4.0 would therefore help humans to collaborate and reach shared goals by pooling their resources and skills. Therefore, it would be a Web which is fully integrated with physical reality, at the service of relationships to multiply and enhance them. The psychological research of the last 15 years converges on the importance of variables like self-control and self-esteem in predicting the dysfunctional use of the Web. In the future, it may be possible to ask for better collaboration between different disciplines which complement each other (e.g.

software engineers, Web sociologists, cyber-psychologists, educational psychologists, etc.) in order to study the new changes that will occur in the Web before they become obsolete.

The final limitation concerns the research method. A cross-sectional study was proposed based on the compilation of a self-report Web questionnaire. However, data collection based on a longitudinal study would have provided more complete data for understanding the changes of the factors involved in the use of the Internet over time. However, the time available during Ph.D. would not have allowed a longitudinal data collection. Moreover, the sudden changes in the Web, its applications (e.g. Instagram, Facebook, Twitter, LinkedIn, etc.) and the devices used (e.g. Smartphone, Tablet) to connect to the Internet, would not have allowed continuity and availability of data collection in a potential longitudinal study. Indeed, if a longitudinal study were hypothesized (e.g. over a period of 5 years) with a group of adolescents, in the meantime their habits regarding the use of the Web and its applications may change as they become emerging adults, and there would consequently be difficulties in measuring congruent changes based on the factors considered at the beginning of the study. Furthermore, it is important to underline that a self-report questionnaire has been used in this research and this type of questionnaire can easily involve the phenomenon of answer falsification by the participants. However, an important part of the data collection involved students (and their parents) of High School and Middle School, so this should have guaranteed a certain truthfulness and validity of the information collected in the questionnaire. Finally, a further limitation concerns the scale validation. In this regard it is important to underline that not all the scales have been validated in an Italian version.

FUTURE RESEARCH DIRECTIONS

Future research must clarify a number of concepts which have only been touched upon in this study and which could further explore certain issues suggested by the theoretical framework and empirical results. For a better understanding of Internet use, studies should be conducted in different cultural, social, and economic contexts to investigate the connections between the factors involved: self-control, cognitive absorption, mindfulness, life satisfaction, job satisfaction, online social-support, offline social-support, and NOCs. Moreover, the findings from this study revealed differences between the four age groups considered. It would be very interesting to compare the differences between age groups in different cultures. In addition, future researchers should better analyze the relationships which are strictly related with the subscales of GPIUS and Cognitive Absorption Scale, which were not considered in this study. Finally, future studies should explore the concept of FIU in greater depth as it is still little present in literature and try to develop a suitable tool for identifying the dynamics and behaviors that lead people to a functional use of the Internet and Web applications/tools.

KEY TERMS AND DEFINITIONS

Functional Internet Use: a set of actions that lead people to use the Internet for purposes that can improve their activities, facilitate goal achievement, and empower their life.

Functional Organ: the integration of a specific tool and a certain human skill which allows people to achieve better performances than the mere use of personal skills.

Inverse Instrumentality: a process of objectification of users that regulates their behavior in an expectant manner, drawing them in or pushing them away from activities.

Problematic Internet Use: a set of actions that lead a person to use the Internet in a way which leads to problems during its excessive use.

Online Life: the set of actions and relationships that people perform and have when they are connected to the Internet.

Offline Life: the set of actions and relationships that a person performs without the Internet.

ACKNOWLEDGMENTS

Special thanks go to the schoolchildren and their parents of "*Direzione Didattica Statale Cesena 2*"[43], to the students of "*Istituto Superiore Pascal Comandini*"[44] for their participation in this study, to the students of "*Liceo Linguistico Internazionale C. Boldrini*"[45], and to the students of "*Liceo Scientifico Niccolò Copernico*"[46]

[43] https://www.ddcesena2.gov.it/

[44] http://www.itis-cesena.it/joomla/index.php?option=com_content&view=featured&Itemid=101

[45] http://linguisticointernazionale.it/

[46] http://liceo.copernico.bo.it/pvw/app/BOLS0001/pvw_sito.php

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APPENDIX

Online and Offline Life: sei connesso o disconnesso?

Grazie per la tua partecipazione a questa ricerca, per la quale ti rinnoviamo la garanzia della privacy e il completo anonimato circa i dati rilevati. Il questionario che ti sottoponiamo si divide in due parti:

- **una prima parte che rileva informazioni generali;**
- **una seconda parte che si rivolge alla tua vita Online.**

Importante: dall'inizio della compilazione, per andare avanti o indietro utilizza solo le freccette che trovi al termine di ogni domanda.

Prima di iniziare, ricorda che

non esistono risposte giuste o sbagliate

sono sufficienti risposte sincere ;-)

Ora clicca sul pulsante (freccetta) qui sotto a destra e inizia la compilazione

>>

Start of Block: Default Block

Genere

- ○ Femmina
- ○ Maschio

Età

Indica la tua nazione di nascita

▼ Afghanistan (1) ... Zimbabwe (193)

Indica la nazione in cui vivi attualmente

▼ Afghanistan (1) ... Zimbabwe (193)

Display This Question:
If Indica la nazione in cui vivi attualmente = Italy

Regione in cui vivi

▼ Abruzzo (1) ... Veneto (20)

Display This Question:
If Indica la nazione in cui vivi attualmente = Italy

Provincia in cui vivi

▼ Agrigento (1) ... Viterbo (110)

Indica il tuo grado di accordo-disaccordo con le seguenti affermazioni

	Fortemente in disaccordo	In disaccordo	D'accordo	Fortemente d'accordo
Penso di valere almeno quanto gli altri	○	○	○	○
Penso di avere un certo numero di qualità	○	○	○	○
Sono portato a pensare di essere un vero fallimento	○	○	○	○
Sono in grado di fare le cose bene almeno come la maggior parte delle persone	○	○	○	○
Penso di non aver molto di cui essere fiera/o	○	○	○	○
Ho un atteggiamento positivo verso me stessa/o	○	○	○	○
Complessivamente sono soddisfatta/o di me stessa/o	○	○	○	○
Desidererei aver maggior rispetto di me stessa/o	○	○	○	○
Senza dubbio a volte mi sento inutile	○	○	○	○
A volte penso di essere un buono a nulla	○	○	○	○

Page Break

Indica il tuo grado di accordo-disaccordo con le seguenti affermazioni

CONSIGLIO: Clicca sul grado che desideri considerando che più ti sposti a destra più sei d'accordo e più ti sposti a sinistra più sei in disaccordo con l'affermazione.

	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	Fortemente d'accordo
In linea di massima la mia vita si avvicina al mio ideale.	○	○	○	○	○	○	○
Le mie condizioni di vita sono eccellenti.	○	○	○	○	○	○	○
Sono soddisfatto della mia vita.	○	○	○	○	○	○	○
Fino ad ora ho ottenuto le cose importanti che voglio nella vita.	○	○	○	○	○	○	○
Se potessi vivere la mia vita di nuovo, non cambierei quasi nulla.	○	○	○	○	○	○	○

Page Break

Professione

▼ LEGISLATORI, IMPRENDITORI E ALTA DIRIGENZA (1) ... DISOCCUPATO/A (14)

Display This Question:
If Professione = Studente

Se frequenti la SCUOLA, seleziona il nome della tua scuola (clicca "altro" nel caso non sia in lista). Se frequenti l'università, seleziona "Frequento l'UNIVERSITA'

▼ Liceo Scientifico Manfredo Fanti - CARPI (MO) (11) ... Liceo "MONTI" - CESENA (13)

Display This Question:
If Professione != Studente

Seleziona il tuo titolo di studio

- ○ Licenza elementare
- ○ Licenza media
- ○ Qualifica del terzo anno di scuola superiore
- ○ Diploma di scuola superiore
- ○ Laurea triennale
- ○ Laurea (quinquennale, magistrale o specialistica)
- ○ Titoli post-laurea (Dottorato; Scuole di specializzazione; Master; ...)

Display This Question:
If If Età Text Response Is Greater Than 18

Hai figli che frequentano le scuole, di qualsiasi tipo o grado? (asili, scuole materne, scuole primarie, scuole secondarie di I e II grado)

- ○ SI
- ○ NO

Display This Question:
If Hai figli che frequentano le scuole, di qualsiasi tipo o grado? (asili, scuole materne, scuole pr... = SI

Seleziona la scuola frequentata dai tuoi figli. (se non è in lista, clicca altro)

▼ CESENA - Quinto Circolo (50) ... Liceo "MONTI" - CESENA (13)

Indica il tuo grado di accordo-disaccordo con le seguenti affermazioni

CONSIGLIO: Clicca sul grado che desideri considerando che più ti sposti a destra più sei d'accordo e più ti sposti a sinistra più sei in disaccordo con l'affermazione.

	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	Fortemente d'accordo
Mi sento piuttosto soddisfatto del mio lavoro/dei miei studi	○	(	(	(	(	(	(	(	(	○
Quasi sempre mi sento entusiasta del mio lavoro/dei miei studi	○	(	(	(	(	(	(	(	(	○
Le mie giornate lavorative/ di studio sembrano non finire mai	○	(	(	(	(	(	(	(	(	○
Mi sento appagato del mio lavoro/dei miei studi	○	(	(	(	(	(	(	(	(	○
I miei studi/il mio lavoro NON mi piace più di tanto	○	(	(	(	(	(	(	(	(	○

Page Break

Display This Question:
If If Età Text Response Is Greater Than 18

Pensando alla tua vita sentimentale, attualmente sei ...

- single, mai sposata/o
- sposata/o senza figli
- sposata/o con figli
- divorziata/o
- separata/o
- vedovo/a
- convivente
- hai una relazione che consideri importante
- hai più relazioni

Rispondi alle seguenti affermazioni

CONSIGLIO: Clicca sulla tua scelta considerando che più ti sposti a destra e più sei in linea con la caratteristica indicata

	Per nulla	(2)	(3)	(4)	Completamente
Sono brava/o a resistere alle tentazioni	○	○	○	○	○
Ho difficoltà ad eliminare le cattive abitudini	○	○	○	○	○
Sono pigra/o	○	○	○	○	○
Dico cose inappropriate	○	○	○	○	○
Sebbene possano nuocermi, se sono cose piacevoli, le faccio comunque	○	○	○	○	○
Mi rifiuto di fare cose che possono nuocermi	○	○	○	○	○
Vorrei avere più auto-disciplina	○	○	○	○	○
Le persone direbbero che ho un'auto-disciplina ferrea	○	○	○	○	○
Il piacere e il divertimento a volte mi impediscono di portare a termine un lavoro	○	○	○	○	○
Ho problemi a concentrarmi	○	○	○	○	○
Sono in grado di lavorare in modo efficace per raggiungere obiettivi di lungo termine	○	○	○	○	○
Non riesco a trattenermi dal fare qualcosa, anche se so che è sbagliata	○	○	○	○	○
Mi capita di agire senza pensare alle alternative possibili	○	○	○	○	○

Page Break

Nella tua vita quotidiana (OFFline), in caso di bisogno, quanto spesso hai a disposizione ...

	Mai	Poche volte	Alcune volte	Spesso	Sempre
Qualcuno il cui parere per te è importante	○	○	○	○	○
Qualcuno che sa consigliarti nei momenti difficili	○	○	○	○	○
Qualcuno che ti dà informazioni per capire una situazione	○	○	○	○	○
Qualcuno a cui chiedere suggerimenti per affrontare un problema personale	○	○	○	○	○
Qualcuno con cui svagarti	○	○	○	○	○
Qualcuno con cui passare momenti piacevoli	○	○	○	○	○
Qualcuno con cui distrarti dai pensieri	○	○	○	○	○
Qualcuno che ti dimostra amore e affetto	○	○	○	○	○
Qualcuno che ti ama e ti fa sentire voluta/o	○	○	○	○	○
Qualcuno che ti conforta sinceramente	○	○	○	○	○
Qualcuno su cui puoi contare e che ti ascolta quando hai bisogno di parlare	○	○	○	○	○

Page Break

Se dovessi quantificare le tue AMICIZIE (ovvero persone con cui hai una relazione che va oltre la semplice conoscenza), quanti amici hai?

- ○ Meno di 5-10
- ○ 5-10
- ○ 11-20
- ○ 21-40
- ○ 41-80
- ○ 81-150

Se dovessi quantificare le PERSONE CHE CONOSCI (ovvero i conoscenti che non frequenti abitualmente), quante persone conosci?

- ○ 0-20
- ○ 21-40
- ○ 41-80
- ○ 81-160
- ○ 161-300
- ○ oltre 300

Page Break

Penso che gli altri mi reputino ...

CONSIGLIO: Clicca sul grado che desideri considerando che più ti sposti a destra più sei d'accordo e più ti sposti a sinistra più sei in disaccordo con l'affermazione.

	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	Fortemente d'accordo
amichevole	○	○	○	○	○	○	○
piacevole	○	○	○	○	○	○	○
affettuosa/o	○	○	○	○	○	○	○
cordiale	○	○	○	○	○	○	○
una persona a cui chiedere un consiglio	○	○	○	○	○	○	○
una persona che vorrebbero come collega di lavoro	○	○	○	○	○	○	○
una persona che vorrebbero come coinquilino	○	○	○	○	○	○	○
una persona che vorrebbero come amica/o	○	○	○	○	○	○	○
fisicamente attraente	○	○	○	○	○	○	○
una persona che "ne sa"	○	○	○	○	○	○	○

Page Break

Indica quanto spesso ti capita di vivere queste esperienze:

	Mai	(2)	(3)	(4)	(5)	Sempre
Mi capita di provare emozioni senza esserne consapevole, se non qualche tempo dopo	○	○	○	○	○	○
Mi capita di rompere oggetti per sbadataggine, disattenzione o perchè penso ad altro	○	○	○	○	○	○
Trovo difficile concentrarmi su ciò che sta accadendo	○	○	○	○	○	○
Quando vado da qualche parte, mi capita di camminare velocemente senza prestare attenzione al percorso.	○	○	○	○	○	○
Tendo ad ignorare le sensazioni di tensione e disagio fisico, finché non prendono il sopravvento.	○	○	○	○	○	○
Mi capita di dimenticare il nome delle persone quando lo sento per la prima volta	○	○	○	○	○	○
Mi sembra di fare le cose in maniera automatica, senza troppa consapevolezza	○	○	○	○	○	○
Mi butto nelle attività senza pensarci troppo	○	○	○	○	○	○
Quando voglio raggiungere un obiettivo, sono così concentrato che non mi rendo conto di ciò che faccio per ottenerlo.	○	○	○	○	○	○
Faccio lavori o compiti in maniera automatica, senza rendermi conto di ciò che sto facendo	○	○	○	○	○	○
Mi capita di guidare sovrappensiero e poi chiedermi perché sono arrivato in un determinato posto	○	○	○	○	○	○
Mi capita di fare cose senza esserne pienamente consapevole	○	○	○	○	○	○
Mi capita di fare uno spuntino senza	○	○	○	○	○	○

rendermene conto

Page Break

Display This Question:
If If Età Text Response Is Greater Than 18

Grazie per aver risposto a questa prima parte del questionario. Ora ti verranno sottoposte alcune domande sulla tua vita ONLINE sulla base delle quali, alla fine della compilazione, riceverai il link ad una pagina web che ti permetterà di visualizzare come hanno risposto in media coloro che hanno compilato il questionario.

Indica tutti gli strumenti con cui ti connetti:

- [ ] Computer (Computer fisso/ portatile/...)
- [ ] Tablet
- [ ] Smartphone/Cellulare
- [ ] Console (Xbox/Play Station/...)
- [ ] SmartTV
- [ ] NON mi CONNETTO per cui non utilizzo nessuno degli strumenti proposti

Skip To: End of Survey If Indica tutti gli strumenti con cui ti connetti: = NON mi CONNETTO per cui non utilizzo nessuno degli strumenti proposti

Display This Question:
If Indica tutti gli strumenti con cui ti connetti: = Computer (Computer fisso/ portatile/...)

Indica nell'arco di una giornata, quante ore sei connesso con ...

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure, dopo averla spostata, modifica direttamente il numero sulla destra

0 2 4 6 8 10 12 14 16 18 20 22 24

Computer (Computer fisso/ portatile/...)	

Display This Question:
If Indica tutti gli strumenti con cui ti connetti: = Tablet

Indica nell'arco di una giornata, quante ore sei connesso con ...

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure, dopo averla spostata, modifica direttamente il numero sulla destra

0 2 4 6 8 10 12 14 16 18 20 22 24

Tablet	

Display This Question:
If Indica tutti gli strumenti con cui ti connetti: = Smartphone/Cellulare

Indica nell'arco di una giornata, quante ore sei connesso con ...

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure, dopo averla spostata, modifica direttamente il numero sulla destra

0 2 4 6 8 10 12 14 16 18 20 22 24

Smartphone/Cellulare	

Display This Question:
If Indica tutti gli strumenti con cui ti connetti: = Console (Xbox/Play Station/...)

Indica nell'arco di una giornata, quante ore sei connesso con ...

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure, dopo averla spostata, modifica direttamente il numero sulla destra

0 2 4 6 8 10 12 14 16 18 20 22 24

Console (Xbox/Play Station/...)	

Display This Question:
If Indica tutti gli strumenti con cui ti connetti: = SmartTV

Indica nell'arco di una giornata, quante ore sei connesso con ...

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure, dopo averla spostata, modifica direttamente il numero sulla destra

0 2 4 6 8 10 12 14 16 18 20 22 24

SmartTV	

Page Break

Indica il tuo grado di accordo o disaccordo con le seguenti informazioni	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	Fortemente d'accordo
Quando sono connessa/o, il tempo vola	○	○	○	○	○	○	○
Quando sono connessa/o, finisco per perdere più tempo di quanto programmato	○	○	○	○	○	○	○
Spesso resto connessa/o più di quanto vorrei	○	○	○	○	○	○	○
Mentre sono connessa/o, resto concentrata/o su ciò che faccio	○	○	○	○	○	○	○
Mentre sono connessa/o, sono immersa/o nelle attività che svolgo	○	○	○	○	○	○	○
Quando sono connessa/o mi diverto	○	○	○	○	○	○	○
Connettermi mi da un gran gusto	○	○	○	○	○	○	○
Mi piace essere connessa/o	○	○	○	○	○	○	○
Essere connessa/o mi annoia	○	○	○	○	○	○	○
Quando sono connessa/o sento di avere tutto sotto controllo	○	○	○	○	○	○	○
Sento di non avere il controllo della mia	○	○	○	○	○	○	○

vita online	
Essere connessa/o stimola la mia curiosità	○ (((((○
Essere connessa/o mi rende curioso	○ (((((○
Essere connessa/o attiva la mia immaginazione	○ (((((○

Page Break

Q31 Indica da 1 a 5 strumenti che utilizzi maggiormente nell'arco di una giornata

- ☐ Facebook
- ☐ Twitter
- ☐ LinkedIn
- ☐ Instagram
- ☐ MySpace
- ☐ Google +
- ☐ YouTube
- ☐ Altri Social Network Sites
- ☐ WhatsApp
- ☐ Skype
- ☐ Blog
- ☐ Wiki
- ☐ E-mail
- ☐ Web Forum
- ☐ Online Games
- ☐ Nessuno dei precedenti

Skip To: Q47 If Indica da 1 a 5 strumenti che utilizzi maggiormente nell'arco di una giornata. = Nessuno dei precedenti

Page Break

Display This Question:
If Indica da 1 a 5 strumenti che utilizzi maggiormente nell'arco di una giornata. = Facebook

Di solito, nell'arco di una giornata, per quanto tempo utilizzi Facebook?

	0-29 minuti	30-59 minuti	1-2 ore	2-3 ore	3-4 ore	4-5 ore	5-6 ore	6-7 ore	7-8 ore	8-9 ore	9-10 ore	più di 10 ore
nel TEMPO LIBERO	○	○	○	○	○	○	○	○	○	○	○	○
durante lo STUDIO o il LAVORO	○	○	○	○	○	○	○	○	○	○	○	○

Le domande seguenti sono tutte simili a quella precedente e riguardano l'utilizzo nell'arco della giornata delle applicazioni selezionate nella domanda: "*Indica da 1 a 5 strumenti che utilizzi maggiormente nell'arco di una giornata***"**

"

Di solito, nell'arco di una giornata, per quanto tempo utilizzi Twitter?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi LinkedIn?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Instagram?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi MySpace?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Google +?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi YouTube?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi altri Social Network?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi WhatsApp?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Skype?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Blog?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Wiki?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi E-Mail?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Web Forum?
Di solito, nell'arco di una giornata, per quanto tempo utilizzi Online Games?

Page Break

Indica il tuo grado di accordo-disaccordo con le seguenti affermazioni

	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	Fortemente d'accordo
Essere connessa/o aumenta le mie capacità per raggiungere determinati obiettivi	○	○	○	○	○	○	○
Essere connessa/o migliora la mia produttività	○	○	○	○	○	○	○
Connettermi è utile per svolgere le mie attività	○	○	○	○	○	○	○
Essere connessa/o migliora le mie performance	○	○	○	○	○	○	○

Nell'arco di una giornata, per quanto ore sei connesso? Ovvero ONLINE tramite qualsiasi strumento tecnologico (computer, tablet, smartphone,..)

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure,

dopo averla spostata, modifica direttamente il numero sulla destra

0 2 4 6 8 10 12 14 16 18 20 22 24

Indica per quante ore sei connesso	

Nell'arco di una giornata, per quante ore sei disponibile ad interagire online? (tramite qualsiasi strumento tecnologico: computer, tablet, smartphone, ...)

CONSIGLIO: Per rispondere trascina la barra sul numero desiderato oppure,

dopo averla spostata, modifica direttamente il numero sulla destra

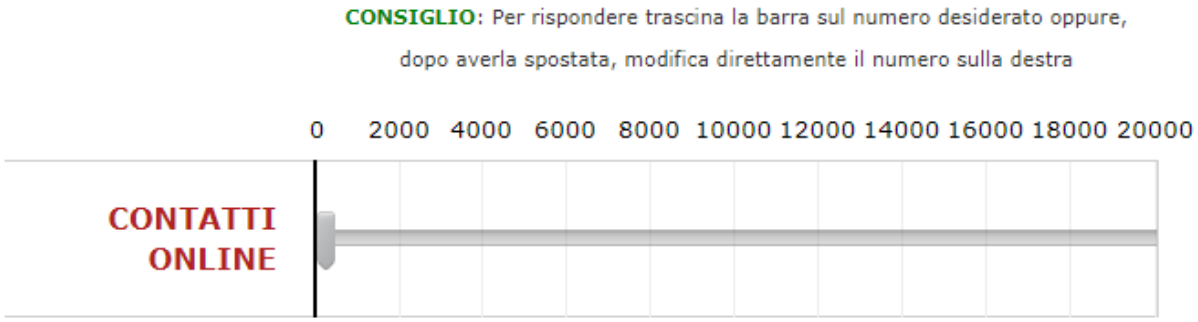
0 2 4 6 8 10 12 14 16 18 20 22 24

Indica per quante ore sei contattabile online...nel TEMPO LIBERO	
Indica per quante ore sei contattabile online...durante lo STUDIO o il LAVORO	

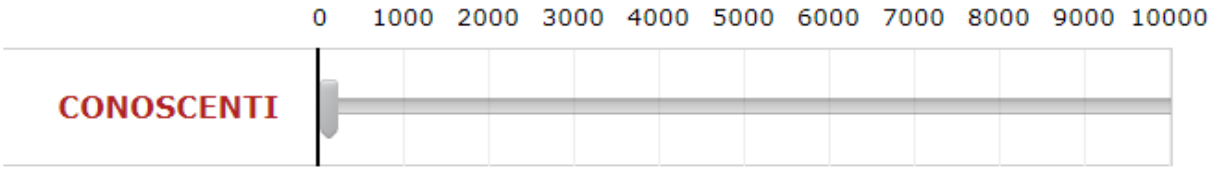
Nell'arco di una giornata, quanto spesso ...

	Mai o quasi mai	2/3 volte al giorno	6/7 volte al giorno	almeno ogni ora	più volte nell'arco di un'ora
controlli se ci sono aggiornamenti/feedback/messaggi sui tuoi profili online	○	○	○	○	○
rispondi ad aggiornamenti/feedback/messaggi sui tuoi profili online	○	○	○	○	○
invii aggiornamenti/feedback/messaggi	○	○	○	○	○

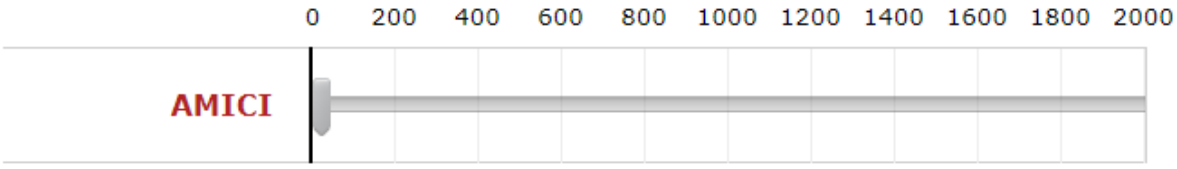
Se dovessi quantificare i tuoi CONTATTI ONLINE (ovvero tutti quelli che hai all'interno dei tuoi profili online), quanti contatti hai online?



Fra i tuoi contatti online, quanti sono semplici CONOSCENTI (ovvero coloro con cui non interagisci abitualmente, online e nella vita quotidiana)?



E quanti invece sono AMICI (ovvero coloro con cui interagisci abitualmente, oltre la semplice conoscenza, online e nella vita quotidiana)?



Penso che i miei CONTATTI ONLINE mi reputino...

CONSIGLIO: Clicca sul grado che desideri considerando che più ti sposti a destra più sei d'accordo e più ti sposti a sinistra più sei in disaccordo con l'affermazione.

	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	Fortemente d'accordo
amichevole	○	○	○	○	○	○	○
piacevole	○	○	○	○	○	○	○
affettuosa/o	○	○	○	○	○	○	○
cordiale	○	○	○	○	○	○	○
una persona a cui chiedere un consiglio	○	○	○	○	○	○	○
una persona che vorrebbero come collega di lavoro	○	○	○	○	○	○	○
una persona che vorrebbero come coinquilino	○	○	○	○	○	○	○
una persona che vorrebbero come amica/o	○	○	○	○	○	○	○
fisicamente attraente	○	○	○	○	○	○	○
una persona che "ne sa"	○	○	○	○	○	○	○

Page Break

Indica il tuo grado di accordo-disaccordo con le seguenti affermazioni

CONSIGLIO: Clicca sul grado che desideri considerando che più ti sposti a destra più sei d'accordo e più ti sposti a sinistra più sei in disaccordo con l'affermazione.

	Fortemente in disaccordo	(2)	(3)	(4)	(5)	(6)	(7)	Fortemente d'accordo
Mi sento più a mio agio nelle interazioni sociali online che in quelle faccia a faccia	○	(	(	(	(	(	(	○
Quando non mi sono connessa/o per un po' di tempo, sono stato assorbito/preso dal pensiero di andare online	○	(	(	(	(	(	(	○
Preferisco comunicare con le persone online piuttosto che faccia a faccia	○	(	(	(	(	(	(	○
Ho usato Internet per sentirmi meglio quando ero giù di morale	○	(	(	(	(	(	(	○
Ho usato Internet per parlare con gli altri quando mi sono sentita/o isolato	○	(	(	(	(	(	(	○
Ho difficoltà a controllare la quantità di tempo che passo online	○	(	(	(	(	(	(	○

Ho mancato appuntamenti o attività sociali a causa del mio uso di Internet	○	(	(	(	(	(	(	○
Ho usato Internet per sentirmi meglio quando mi sono sentito agitata/o	○	(	(	(	(	(	(	○
Mi sentirei persa/o se non potessi connettermi	○	(	(	(	(	(	(	○
Trovo difficile tenere sotto controllo il mio uso di Internet	○	(	(	(	(	(	(	○
Quando non sono online penso ossessivamente all'idea di connettermi	○	(	(	(	(	(	(	○
Quando non sono online faccio fatica a resistere all'impulso di connettermi	○	(	(	(	(	(	(	○
Preferisco le interazioni sociali online a quelle faccia a faccia	○	(	(	(	(	(	(	○
Il mio uso di Internet ha creato problemi nella mia vita	○	(	(	(	(	(	(	○
Il mio uso di Internet ha reso difficile organizzare la mia vita	○	(	(	(	(	(	(	○

Page Break

Nella tua vita ONLINE, in caso di bisogno, quanto spesso hai a disposizione

	Mai	Poche volte	Alcune Volte	Spesso	Sempre
Qualcuno il cui parere per te è importante	○	○	○	○	○
Qualcuno che sa consigliarti nei momenti difficili	○	○	○	○	○
Qualcuno che ti da informazioni per capire una situazione	○	○	○	○	○
Qualcuno a cui chiedere suggerimenti per affrontare un problema personale	○	○	○	○	○
Qualcuno con cui svagarti	○	○	○	○	○
Qualcuno con cui passare momenti piacevoli	○	○	○	○	○
Qualcuno con cui distrarti dai pensieri	○	○	○	○	○
Qualcuno che ti dimostra amore e affetto	○	○	○	○	○
Qualcuno che ti ama e ti fa sentire voluta/o	○	○	○	○	○
Qualcuno che ti conforta sinceramente	○	○	○	○	○
Qualcuno su cui puoi contare e che ti ascolta quando hai bisogno di parlare	○	○	○	○	○

Page Break

Grazie per aver partecipato a questa ricerca.
Come promesso, cliccando sul link sottostante potrai verificare alcune statistiche interessanti inerenti l'utilizzo delle tecnologie web fra i partecipanti che, come te, hanno compilato il questionario.

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