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THE EFFECTIVENESS OF A PROGRAM DESIGNED TO PREVENT PROBLEMATIC INTERNET USE AMONG SIXTH GRADERS

A DOCTORAL DISSERTATION

BY

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THE PROGRAM OF CURRICULUM AND INSTRUCTION
İHSAN DOĞRAMACI BILKENT UNIVERSITY
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MAY 2017

This dissertation is dedicated to all the girls who want to pursue their education to write their own success stories.

The Effectiveness of a Program Designed to Prevent Problematic Internet Use among Sixth Graders

The Graduate School of Education

of

İhsan Doğramacı Bilkent University

by

Jale Ataşalar

In Partial Fulfilment of the Requirements for the Degree of

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Jale Ataşalar
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I certify that I have read this doctoral dissertation and have found that it is fully adequate, in scope and in quality, as a dissertation for the degree of Doctor of Philosophy in Curriculum and Instruction.

Asst. Prof. Dr. Aikaterini Michou (Supervisor)

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ABSTRACT

THE EFFECTIVENESS OF A PROGRAM DESIGNED TO PREVENT PROBLEMATIC INTERNET USE AMONG SIXTH GRADERS

Jale Ataşalar

PhD, Program of Curriculum and Instruction
Supervisor: Asst. Prof. Dr. Aikaterini Michou

May 2017

This research investigates the relationship of non-risk Turkish early adolescent urban middle school students' need satisfaction, coping, mindfulness and awareness of consequences of online behaviours with problematic Internet use (PIU), and the effectiveness of a small scale preventive program on PIU in two studies.

Study 1 examined the extent to which coping strategies in stressful situations and mindfulness during online engagement mediates the relationship between need satisfaction in real life and PIU, and the reliability of measures to assess coping, mindfulness, online persona, PIU and need satisfaction. A cross-sectional design and Path analysis on a sample of 165 Turkish early adolescents (M_{age} = 12.88, SD = .83; 49.1% females) found that need satisfaction was negatively related to PIU via low avoidant coping and high mindfulness in Internet engagement.

Study 2 designed, implemented and tested the effectiveness in preventing PIU through a 10-week Mindful and Need-supportive Digital Life Responsibility Program (MiNDLifeResP) based on mindfulness in online engagement, awareness of responsible Internet use, satisfaction of psychological needs, and comprehensive understanding of active coping strategies. A quasi-experimental design collected both quantitative and qualitative data from twenty experimental group students (9 females) and twenty control group students (8 females). In pre-test, post-test and follow up, PIU, responsible Internet use, coping strategies, and psychological needs, plus frequencies and limitations in Internet use, were assessed. Post intervention interviews sought experimental group students' experience and perceptions of the implemented program. The experimental group and researcher kept diaries during the intervention, and parents reported on their children's Internet use behaviour in pre- and post-tests. For pre-test, post-test and follow-up descriptive statistics and bi-variate correlations were calculated, along with MANOVA for gender differences. In addition, a two-way repeated measures ANOVA and a cross tabulation analysis was used in the main analysis, a one-way repeated measure ANOVA for students' quantitative diaries, and a paired-sample t-test to compare parents' reports about their children's time spent on Internet. An independent sample t-test compared students' perception of need satisfaction in quantitative diaries. Content analysis was performed on experimental group students' qualitative interview data, and on the researcher's reflection diary.

The MiNDLifeResP was unsuccessful in increasing RIU and decreasing PIU and avoidant coping for not-at-risk adolescents, but successful in forming positive cognitions for students regarding harmonious Internet use, active coping, and awareness of the present moment. Additionally, the need supportive component was successful for students' need satisfaction during the intervention. Recommendations to improve the study and implications of the results for education and teaching practices are then discussed.

Key words: Need satisfaction; Problematic Internet use; Coping; Responsible Internet use; Early adolescents; Prevention intervention

ÖZET

ALTINCI SINIF ÖĞRENCİLERİNİN PROBLEMLİ İNTERNET KULLANIMINI ÖNLEMEK İÇİN TASARLANAN PROGRAMIN ETKİLİLİĞİ

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Mayıs 2017

İki aşamalı yürütülen çalışmanın ilk aşamasında ortaokul öğrencisi, kentli ve risk altında olmayan Türk ortaokul öğrencilerinin ihtiyaç doyumu, başa çıkma, bilinçli farkındalık ve problemli internet kullanımının (PİK) sonuçlarına ilişkin farkındalığı incelenirken, ikinci çalışmada PİK'i önleme amaçlı geliştirilen küçük ölçekli programın etkililiği incelenmiştir.

Birinci çalışma, stresli durumlarda başa çıkma stratejilerinin ve internet kullanırken bilinçli farkındalığın, PİK ve gerçek yaşamdaki ihtiyaç doyumu arasındaki ilişkide ne oranda aracılık ettiklerini incelenmiştir. Buna ek olarak, başa çıkma, bilinçli farkındalık, çevrimiçi kimlik, PİK ve ihtiyaç doyumunun değerlendirilmesinde kullanılan ölçme araçlarının güvenirliği incelenmiştir. 165 kişilik Türk erken ergen örnekleminde ($\overline{X}_{\text{yaş}}$ = 12.88, *SS* = .83; %49.1 kız) kesitsel araştırma deseni ve ilişki analizi kullanılmıştır. Buna göre, ihtiyaç doyumu ile problemli internet kullanımı arasındaki ilişkiye kaçınan başa çıkma stratejisi kullanmanın ve internet kullanırken bilinçli farkındalığın yüksek olmasının aracılık ettiği bulunmuştur.

İkinci çalışmada, on hafta süresince uygulaması planlanan PİK'i önleyici Dijital Yaşam Farkındalığı Sorumluluk Programı tasarlandı ve etkililiği incelenmiştir. Bu Program, internet kullanırken bilinçli farkındalık, psikolojik ihtiyaçların doyumu, sorumlu internet kullanımının farkındalığı ve aktif başa çıkma stratejilerinin kapsamlı anlayışına dayanarak geliştirilmiştir. Yarı deneysel araştırma deseninde hem niteliksel hem de niceliksel veriler, deney (9 kız) ve kontrol (8 kız) gruplarındaki yirmişer öğrenciden elde edilmiştir. Ön-test, son-test ve izleme testlerinde PİK, sorumlu internet kullanımı, başa çıkma stratejileri ve psikolojik ihtiyaçlara ek olarak internet kullanımındaki sıklık ve sınırlandırmalar da değerlendirilmiştir. Son-testten yani Program'ın uygulanmasından sonra deney grubundaki öğrencilerle Program'a ilişkin deneyimlerini ve algılarını öğrenmek amacıyla bireysel görüşmeler yapılmıştır. Program uygulanırken hem deney grubundaki öğrenciler hem de araştırmacı tarafından günlük tutulmuştur. Deney grubundaki öğrencilerin ebeveynleri çocuklarının internet kullanımına ilişkin bir bilgilendirmeyi ön-test ve son-testte ölçek doldurarak sağlamışlardır. Ön-test, son-test ve izleme değerlendirmelerinde betimsel istatistik, basit (ikili) korelasyon ve

cinsiyet farklılıkları için Çok Değişkenli Varyans Analizi kullanılmıştır. Bunlara ek olarak, çalışmanın temel analizlerinde, Tekrarlı Ölçümler için İki Faktörlü Varyans Analizi ve Çapraz Tablo analiz edilmiştir. Ayrıca, öğrencilerin niceliksel günlüklerinin analizinde Tekrarlı Ölçümler için Tek Faktörlü Varyans Analizi kullanılmıştır. Ebeveynlerin çocuklarının internet kullanım miktarlarının ortalamalarının karşılaştırılmasında ise İlişkili Örneklemler için t-test kullanılmıştır. Bununla beraber öğrencilerin ihtiyaç doyumuna ilişkin algılarının ve araştırmacının ihtiyaç destekleyici tarzına ilişkin kendi algısının ortalamasını karşılaştırmak için Bağımsız Örneklemler için t-test niceliksel günlüklerin analizinde kullanılmıştır. Deney grubunun görüşme verilerinin ve araştırmacının dönüşümlü düşünme günlüğünün niteliksel analizleri için ise İçerik Analizi yapılmıştır.

Sonuç olarak uygulanan Program, risk altında olmayan ergenlerde sorumlu internet kullanımını artırmada, problemli internet kullanımını ve kaçınan başa çıkma strajesini kullanmayı azaltmada başarılı bulunmamıştır. Ancak bu program öğrencilerde olumlu internet kullanımı, aktif başa çıkma stratejileri ve içinde bulunulan şimdiki anın farkındalığına ilişkin olumlu bilişsel yapılandırmaları sağlamada başarılı bulunmuştur. Ayrıca, on haftalık Program'ın içeriğindeki ihtiyaç destekleyici faktöre başarıyla ulaşılmıştır. Araştırmacının gruptaki ihtiyaç destekleyici liderlik tarzıyla öğrencilerin psikolojik ihtiyaçlarının karşılanmasına imkan sağlandığı belirlenmiştir. Araştırmaya ilişkin çıkarımlarla birlikte araştırmanın nasıl geliştirilebileceğine ilişkin öneriler ve tartışmalar sunulmuştur.

Anahtar Kelimeler: İhtiyaç doyumu; Problemli internet kullanımı; Başa çıkma; Olumlu internet kullanımı; Erken ergenlik; Önleyici müdahale

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My commitment to preventive work often reminds me of my mother. My grandfather was a tailor, and he sent my mother, who was a primary school graduate, to work as an apprentice alongside another tailor. When I was a child, my mother used to sew from home to earn a bit of money. Women I didn't know used to come to our house, bring my mother fabric, and ask her to sew clothing for them. With scissors in hand, and with a vision of what her customers desired, she would skillfully cut, carefully attending to the characteristics of the fabric. My mother knew the value of every piece of cloth. She made pants for my sister and me using my older brother's jacket. I was in awe of her ability to transform fabric. Someone who loved to talk to flowers and birds, my mother, as an old habit from her tailor apprenticeship, would never start a job without carefully planning and analyzing every detail. Never one to mis-cut fabric, her words still ring in my ears: "Do whatever job you do, but do it the best. Always read, always look into things." I have never been as talented as my mother, but she instilled in me a rare discipline and desire for study. Today, in my own work with children and adolescents in the school, I see her in my own preventive approach to counseling. My aim is not to overburden people, but to help them realize different possibilities and choices and make decisions accordingly. I believe that adolescence is a process of immense transformation and change, and consider myself a psychological tailor of sorts, offering guidance—just like my mother would with her customers—to those who come to me according to their bodies, their pleasures, and their daily lives.

My PhD training in Curriculum and Instruction at the Graduate School of Education in Bilkent University occupies a special place among the various forms of training I have received, as it has allowed me to approach cases from a wider perspective, and to understand how problems function within the systems of schools, families or communities—to see, in other words, that such problems are not always problems but play a purposeful role, which must be appreciated in designing subsequent measures. In this sense, when I started to do my research, I wanted to explore what the underlying mechanisms of misuse of the technology in adolescents were. Problematic Internet Use needed a specific attention which I have experienced it in different aspects with my students at the school of my professional life in recent years. Such is the context in which the subject of my doctoral dissertation took shape. How can I design a program in digital life responsibility that adolescents might transfer to their daily lives and use in the long term? If this awareness of digital life program is my *fabric*, then my wish is to turn this fabric into an outfit that can be worn with pleasure every day, and that might contribute, in some small way, to raising a healthy generation. Through this program, meant to be modified according to specific needs, my colleagues and I, with new scissors and new fabric, might empower young people to make positive choices and bask in the pleasure of watching them grow.

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CHAPTER 1: INTRODUCTION

Introduction

In recent years, stunning developments in information and communication technologies (ICT), particularly the Internet with widespread use in many areas of our daily lives, have become indispensable parts of modern life. The Internet is easily accessible on smart phones, tablets, and computers and is used for a wide variety of purposes in our modern lives. Electronic devices provide instant access to a range of services such as: email and web functionality; instant messaging; social network sites (SNSs) (Facebook, YouTube , Instagram, Twitter, etc.); virtual learning environments (Moodle); chat rooms; podcasting; webcams; Wikis; music download sites; game sites; games consoles with Internet communication; virtual worlds (i.e., Second Life); and blogs (Boyd & Ellison, 2007; Katz, 2012; Ribble, 2009), to cite a few of the many possibilities. Communication opportunities have multiplied in this new Internet era; for example, blogging allows readers to post comments and allows entries to be linked to other bloggers; podcasters record and post audio files on the Internet for anyone who wants to listen to them; wikis allow users to create, edit and modify hyperlinked web pages using a web browser; multiple players compete against one another in different locations in the world; and, many more opportunities.

In order to increase the availability of ICT applications such as e-government and e-school, lots of efforts have been made in Turkey, as in many other countries. One of these efforts has been to provide each household with Internet access. According to the results of an ICT Usage Survey in Households and Individuals carried out by the Turkish Statistical Institute (TSI) in August, 2016, 76.3 per cent of households have

access to the Internet at home (TSI, 2016). It was stated that households with access to the Internet increased from 19.7 per cent in 2007 to 60.2 per cent in 2014 (TSI, 2014). This increase in the Internet usage rate is quite remarkable.

This rapid increase in the use of the Internet has led to the bringing of different age groups together in a kind of virtual village. It is not surprising that, in particular, children and adolescents are attracted to this virtual world more easily than others. As the report by TSI (2013) suggests, students (aged 6-15) start using computers at an average age of 8, and they start using the Internet at an average age of 9 in Turkey. It is obvious that those children and adolescents are highly attracted by the Internet, which offers them a wide range of opportunities such as entertainment, socialization, and provision of information. The same report reveals that the purpose of Internet usage among Turkish children and adolescents aged 6-15 has been mostly homework and learning (84.8%), followed by playing games (79.5%), googling (56.7%) and joining social networks (53.5%). The percentages above are related to the advantages of the use of the Internet. For example, Facebook is a social capital-bridging tool as people see themselves as part of a broader group without emotional support. Employment or work-related web sites such as Linkedin, and their use by undergraduate students with low self-esteem helped maintain distant relationships and strengthened weak social bonding ties (Steinfield, Ellison, & Lampe, 2008).

However, with expanded communication opportunities come expanded risks (Brown, Demaray, & Secord, 2014; Dredge, Gleeson, & Garcia, 2014; Hinduja & Patchin, 2013; Mishna, Khoury-Kassabri, Gadalla, & Daciuk, 2012; Schoffstall & Cohen, 2011). For example, it has been shown that middle school students risk some negative consequences depending on their Internet usage goals (Selfhout, Branje,

Delsing, terBogt, & Meeus, 2009). Selfhout et al. (2009) found that adolescents who perceived their own friendship as being of low quality suffered less depression when using the Internet for communication purposes (e.g. instant messaging) than when using the Internet for non-communication purposes (e.g. surfing); the latter use caused more depression and more social anxiety. On the other hand, teenagers' parents are concerned about the use of social networking sites (SNSs), and whether these increase their children's risk of harm. In response to this concern, Staksrud, Olafsson and Livingstone (2013) conducted a study of 1000 Internet users between 9 and 16 years of age in 25 European countries. The results show that those children and adolescents who use SNSs encountered more risks online than those who do not; users with more digital competence encountered more online risk than those with less competence; and users with a larger number of risky SNS practices, such as having a public profile, displaying identity information, and having a very large number of contacts, encountered more online risks than those with fewer risky practices. In parallel, the findings of EU Kids Online II-Turkey (2010) show that, although sharing of personal information on the Internet by children and adolescents was prohibited by their parents, 42% of the Turkish children and adolescents who use SNSs had a public profile, 19% posted their address information and 8% posted their phone numbers (Çelen, Çelik, & Seferoğlu, 2011). Furthermore, Aslan (2016) compared the EU Kids Online Project Group's data for 2010 and 2015 and found that the percentage of Turkish children who contact unknown people on the Internet has increased from 15.9% in 2010 to 37.6% in 2015.

Adolescence, a transitional period to adulthood, is a time of fantastic growth, but it is also a time of substantial risks in adolescents' social life, e.g. there is a positive link between sensation seeking behavior and peer influence, when compared to being

alone, in adolescent's risk taking behaviours (Romer, 2010).When adolescents lack the necessary skills to cope with their various emotions, thoughts, and stressful life events in their social interactions, e.g. conflicts with peer and/or family, problems with school, they are more likely to choose maladaptive ways of handling them. In such cases coping strategies that might be adopted are: externalizing problems (i.e., aggression); internalizing behaviour problems (i.e., anxiety and avoidance social situations); social incompetence (i.e., less best friendship); and low academic performance (Clarke, 2006). Moreover, the list of maladaptive ways to cope with stressful events in adolescence includes problematic Internet use (PIU), which is positively related to avoidant coping and escapism (Trnka, Martínková, & Tavel, 2016). It can be said that the Internet has facilitated modern life in several ways, but it might also be used by adolescents to escape from unpleasant situations in real life. When facing such a risk in the use of a medium that is important for advanced teaching and learning, there is a need for studies aimed at preventing problematic and promoting harmonious Internet use in schools so as to contribute to adolescents' social, emotional and cognitive development.

Background

Problematic Internet use

PIU has been explained and labelled differently by researchers; for example, excessive Internet use (EIU) or pathological Internet use (PAIU). The 'European Union Kids Online II', which aims to stimulate and coordinate investigation into children's online uses, activities, risks, and safety, prefers the term excessive Internet use; this term refers to children's lack of ability to control online activities (Smahel, Helsper, Green, Kalmus, Blinka, & Olafsson, 2012). Their study reports that being older, having emotional problems and high levels of sensation-seeking, increasing

time spent online and having more digital skills are the factors which indicate EIU. On the other hand, Davis (2001) prefers the term PAIU, i.e. maladaptive cognitions and behaviours (e.g. I am only good on the Internet), and states PIU results in negative life outcomes. Caplan (2002), however, prefers the term 'Problematic Internet Use', in which are included the negative personal and professional consequences that stem from the cognitions and behaviours linked to Internet use. For example, people who feel lonely and depressed may be inclined to use online social interaction, which leads to negative outcomes (Caplan, 2003). In a study by Morena, Jelenchick, and Christakis (2013) PIU was defined as risky, excessive, or impulsive usage of the Internet, which leads to emotional, social, physical or functional deterioration in life. In this definition, the lack of ability to control online life is implied, whereas the risk taking and the emotional, social, and physical consequences for Internet users are stressed.

These particular aspects of PIU, namely unbalanced or dysfunctional, risky Internet use, responsibility avoiding, physical, emotional and social problems, are important prohibiting factors in the healthy development of adolescents. This definition of PIU was chosen as the focus in the current study as the elements of this definition represent the areas to be part of the proposed school-based digital life responsibility program.

On the other hand, harmonious Internet use can be related to adolescents' optimal development. Harmonious Internet use can be likened to the harmonious passion as defined by Vallerand et al. (2003). For them, an activity can be either integrated into one's identity and, therefore, the engagement in this activity can be characterized by an harmonious passion; or, it can be alienated by the self and engagement in the activity can be instigated by an obsessive passion. Harmonious Internet use seems to

be an engagement to Internet use for conscious and important reasons related to one's personal priorities and goals. This state is very different from PIU in which escapism from responsibilities is one's main focus.

Harmonious Internet passion is related to adaptive and positive outcomes, whereas obsessive Internet passion is related to maladaptive and negative outcomes (Naydanova & Beal, 2016). In addition, obsessive passion and/or a tendency to engage in online behaviours is associated with part of Internet dysfunctional use demonstrating itself as a coping strategy for social anxiety or symptoms of depression (Burnay, Billieux, Blairy, & Larøi, 2015).

Types of problematic Internet use

Nowadays the Internet has many applications and there are different types of PIU in adolescence. Types of PIU include actions such as: posting of personal information online; corresponding online with an unknown person; online-initiated harassment; online-initiated sex sites; overriding Internet filters or blocks (Dowell, Burgess, & Cavanaugh, 2009); or excessive online gaming and cyber-bullying (Mishna et al., 2012). For each type of PIU researchers have found different correlates that can be considered either as reasons or outcomes of PIU. For example, dysfunctional online gaming is related to a motivation that stems from looking for achievement in the game and to escapism from real life problems such as anxiety, boredom and depression (Billieux et al., 2013). Moreover, there is a positive relationship between dysfunctional online gaming and physical (i.e. sleep) and psychological (i.e. depression and anxiety) health problems (Männikkö, Billieux, & Kääriäinen, 2015). Besides, when people experience anxiety in their lives and use online game increasingly as well as avoidant coping strategies, they may develop a game

addiction as an endpoint of PIU (Loton, Borkoles, Lubman, & Polman, 2016). Also, as online players with more stress in their lives, they play games problematically in response to the stress in an escapist manner (Snodgrass et al., 2014).

Another type of PIU that deserves particular mention is cyber-bullying in adolescents. It has been defined as the "wilful and repeated harm inflicted through the use of modern communication technologies such as computers, cell phones, and other electronic devices" (Hinduja & Patchin, 2009, p. 5), using diverse technological means such as instant messaging, electronic mail, text messaging, social networking sites, chat rooms, blogs, web sites, bash boards, and Internet gaming (Kowalski, Limber, & Agatston, 2008). Willard (2006, as cited in Kowalski et al., 2008) has pinpointed the following types of cyber-bullying: flaming (two or more people exchange their heated opinions via a technological device); harassment **(**duplicative aggressive messages sent to target, it is longer than flaming, and more one-sided); denigration (depreciatory and incorrect information); impersonation (the perpetrator acts as a victim and sends negative or inappropriate messages to others); outing and trickery **(**target's personal information shared with others with whom it was never intended to be shared); exclusion-ostracism **(**out of group in virtual life); cyber-stalking **(**repetitive harassment and threatening messages in a 'sneaky' way); and, happy slapping **(**to 'slap' someone is to take a camera shot and put it on the net).

The impact on the recipients of cyber-bullying has been further elaborated on in research. It has been found that there is a relationship between cyber-bullying and PIU (Gamez-Guadix, Borrajo, & Almendros, 2016), and aggressive behaviour, higher truancy, more physiological problems, lower self-esteem, heightened depression, and heightened social anxiety (Kowalski et al., 2008; Patchin & Hinduja,

2012). Peer perception plays a vital role in the relationship between school climate and cyber-bullying for boys who are more involved in cyber-bullying issues (Bayar & Uçanok, 2012), while a positive relationship has been found between involvement in traditional bullying and cyber-bullying (Burnukara & Uçanok, 2012; Casas, Del Rey, & Ortega-Ruiz, 2013; Del Rey, Elipe, & Ortega-Ruiz, 2012; Holfeld & Grabe, 2012; Jang, Song, & Kim, 2014; Mishna et al., 2012). In addition, cyber-bullying may lead to increased suffering in victims because of the anonymity factor, i.e. they are not able to control the bullying, they are not aware of how many recipients have been included in the communications on the Internet, they are not sure how long the communication will stay on the web, and, in many cases, the perpetrator of the action is unknown to them. Furthermore, as the interaction is not face to face, young people are often unsure as to how to cope with the situation. They are unaware of who their assailant is and, therefore, remain with a feeling of powerlessness.

Ways of detecting PIU

There is no clear way of detecting someone who is misusing the Internet. This is mainly because the direction of causality is ambiguous; for example, individuals suffering from social issues may misuse the Internet as a way to escape from their problems, or, heavy Internet users may suffer from some issues because of their heavy use. The difficulty in assigning causality and detecting PIU requires vigilance as the symptoms of PIU may surface in different ways. In this sense, an awareness of PIU correlates can be useful in the detection or prevention of PIU.

Certain studies associate PIU, whether general or specific (e.g., cyber-bullying), with social anxiety, low ego strength, and depression (Shepherd & Edelman, 2005). The literature indicates that the other potential symptoms that may be associated with PIU

are: low levels of self-clarity (Israelashvili, Kim, & Bukobza, 2012); a tendency toward compulsive Internet use, i.e. including not being able to stop using the Internet; allowing the use to interfere with other responsibilities, strongly associated with low well-being, loneliness, introversion, and less emotional stability (van der Aa, et al., 2009); maladaptive peer and classmate norms, and low self-efficacy (Lazuras, Barkoukis, Ourda, & Tsorbatzoudis, 2013).

Researchers have highlighted the relationship between PIU and emotional dysregulation (i.e., non-acceptance of emotional response, impulse control difficulties) as well as the psychological mechanisms that mediate this relationship (Casale, Caplan, & Fioravanti, 2016). They found that both positive metacognitions of Internet use, escapism and controllability (the Internet provides easy control compare to face to face interaction), were the mediators of a positive relation between inability to manage negative emotions and PIU. Chun (2016) also found psychological problems and emotion dysregulation to be related to PIU through low self-esteem. Furthermore, adolescents' difficulties in emotion regulation (i.e. their limited access to emotion regulation strategies, their lack of emotional awareness, the difficulties they have in engaging in goal-directed behaviour) are positively associated with PIU (Yu, Kim, & Hay, 2013) as well as low self-esteem and high anxiety (Kim & Davis, 2009).

An important clarification that should be made when the detection of PIU is discussed is the distinction between over- or heavy users and addicted users. Adolescents who are "over users" or "heavy users" employ the Internet for age-related and modern life purposes as an identity exploration and therefore cannot be classified as "Internet addicted" (Israelashvili et al., 2012). In contrast, Young (1998)

defined Internet addiction as a clinically significant impairment or distress stemming from maladaptive patterns of Internet use.

Finally, it is important to mention that some users may be more susceptible to PIU. For example, "Being female increased the risk of being cyber bullied by 3.12 times and bullying others via traditional means increased the risk by 2.74 times" when they used instant messaging, cell phones, social networking sites, e-mail, and chat rooms (Holfeld et al., 2012, p.403). Boys were more susceptible to being involved in cyber bullying because they have high traditional bullying practices in their lives.

The difficulty of recognising and connecting symptoms to PIU, and the fact that some categories of Internet users may be more susceptible to negative effects than other users mean that prevention, rather than cure, is a strategy that seems to be advisable in the current conjuncture, particularly, as the high-risk groups are still within a school system and, therefore, more accessible in terms of prevention strategies.

Why adolescents engage in PIU: The role of need satisfaction

According to Self-Determination Theory (SDT, Deci & Ryan, 2000), the fulfilment of three innate psychological needs contribute to healthy psychological growth and thus to individual's well-being and effective functioning. As PIU is related to ill-being and less optimal functioning, the assumption that PIU is related to psychological needs frustration has been investigated in several studies. Before presenting the findings of these studies, it is important to define these three innate psychological needs. The three psychological needs encompass the need for competence, the need for autonomy and the need for relatedness. The need for competence reflects feelings of effectiveness while participating in a situation or

activity. The need for relatedness involves feelings of being connected with others, while the need for autonomy reflects a sense of agency and volitional engagement in a situation or activity.

Reis, Sheldon, Gable, Roscoe and Ryan (2000) have found that satisfaction of these three psychological needs predicts daily well-being in undergraduate students. In a similar vein, satisfaction of young adults' basic psychological needs has a direct positive influence on their level of self-esteem, anxiety, and life satisfaction, while the feeling of being supported by their family and friends has a positive influence on their subjective well-being (Cihangir-Çankaya, 2009). In another study, researchers examined need satisfaction and well-being in a sample of third and seventh grade students (Veronneau, Koestner, & Abela, 2005). Satisfaction of the need for competence was a significant predictor of concurrent and future levels of depressive symptoms. In addition, satisfaction of the need for autonomy and competence was inversely related to concurrent levels of negative affect. Satisfaction of the need for relatedness was significantly related to future levels of positive affect. All three needs were positively and significantly related to concurrent levels of positive affect.

The above findings show that satisfaction of the need for autonomy, competence, and relatedness contributes to children's, adolescents', and young adults' well-being. In addition, a similar study done amongst children aged 8-12 by Shen, Liu and Wang (2013) found that children with high levels of daily needs satisfaction are more likely to use the Internet in a desirable way (appropriate amount of engagement and more positive affect), whereas the children with low levels of daily needs satisfaction are more inclined to get involved in PIU (e.g. less enjoyment, more negative affect experience, and yet a higher overall amount of engagement).

Research has also shown that chronic frustration of the needs for autonomy, competence and relatedness in real life could lead to obsessive engagement with Internet applications such as online games (Peng, Lin, Pfeiffer, & Winn, 2012; Przybylski, Rigby, & Ryan, 2010). At the same time, children with more online psychological need satisfaction have higher levels of Internet use and more positive affect and enjoyment online than children who have less psychological need satisfaction online (Ryan, Rigby, & Przybylski, 2006; Shen et al., 2013). For this reason, excessive Internet use has been considered a coping mechanism to satisfy the unmet needs of real life (Kardefelt-Winter, 2014; Shen et al., 2013).

However, research has also shown that satisfying needs in real life is related to less engagement in Internet activities (Shen et al., 2013; Yu, Li, & Zhang, 2015), and less fear of missing out while being offline (Przybylski, Murayama, DeHaan, & Gladwell, 2013). It seems that the averse situation of unmet needs in real life could be compensated for by online activities that are need-supportive. Therefore, the question is whether excessive engagement in Internet applications is an adaptive or maladaptive behavioral outcome as it is often a need satisfying state. What the mediating psychological mechanisms are that relate needs satisfaction in offline life to PIU are have also remained underexplored.

Taking into consideration the above findings, it seems that the satisfaction of the three psychological needs is an important correlate to adolescents' optimal functioning and well-being and, thus, many maladaptive patterns of behaviour (included PIU), affect and cognition can be considered the result of adolescents' need frustration.

Why adolescents engage in PIU: The role of coping and control abilities

As pointed out above, PIU can be considered as a maladaptive strategy employed by adolescents to cope with the stressful situation of having their psychological needs unsatisfied. Indeed, PIU has been found to be positively related to maladaptive coping as well as to low self-control abilities. Coping refers to individuals' ongoing cognitive and behavioral efforts to address resource-demanding situations (Lazarus & Folkman, 1984) and is considered an important mechanism in a person's optimal functioning. People employ different coping strategies that could lead either to constructive interaction with the stressful situation or to escalating the stress (Skinner & Edge, 2002). For example, active coping has been positively related to higher post-traumatic growth (Yeung, Lu, Wong, & Huynh, 2016), adolescents' well-being (Tremolada & Bonichini, 2015), persistence to striving for goal attainment and goal progress (Amiot, Gaudreau, & Blanchard, 2004; Gaudreau, Carraro, & Miranda, 2012).

On the other hand, avoidant coping has been positively related with negative outcomes such as PIU (Hetzel-Riggin & Pritchard, 2011), generalized Internet addiction (Brand, Laier, & Young, 2014), and higher stress appraisal and tendency to forget through going online (Deatherage, Servaty-Seib, & Aksoz , 2014). Li, Zhang, Li, Zhen, and Wang (2010) showed that there was a positive relationship between stressful life events and PIU in grades 7 and 8 for adolescents in China. More specifically, adolescents effortful control and sensation seeking temperament moderated the relationship between PIU and stressful life events. This effect was mediated by maladaptive cognitions such as "online friends are more trustable than those offline" (p. 1202). Li et al. (2010) also found that males were more likely to develop PIU than females; females had higher effortful control and less maladaptive

cognitions and, thus, were less likely to get involved in PIU when they were experiencing stressful life events. The findings of this study suggest interactions between effortful control and maladaptive cognitions are important in self-regulation and, therefore, can be risk-buffering factors to avoid PIU.

Self-control abilities refer to one's capacity for emotional and behavioural regulation. In a study carried out among adolescents in middle schools in China, it was shown that there is a strong relationship between PIU and self-control abilities with which they regulate their emotions and behaviours to achieve a specific goal (Li et al., 2013). That is to say, the lower the emotional and behavioural self-control mechanism, the higher the PIU; whereas the higher the self-control mechanism, the lower the PIU.

Having the capacity to control, to stop and start doing something, seems important for wellness in terms of emotional, social and cognitive development for children and adolescents. In this direction, adolescents with high levels of delayed gratification were more likely to inhibit their risk-taking (Romer, Duckworth, Sznitman, & Park, 2010). It seems that an ability to delay gratification is an important source of self-control. In the light of the above findings, it seems that having low control or regulation of behaviours and/or using avoidant coping strategies for stressful life events are associated with PIU.

Why adolescents engage in PIU: The role of responsible Internet use

Responsible or safe Internet use has been mostly described as the awareness of the consequences of sharing passwords with friends, posting personal statements or photos in social network, visiting illegal websites, or interacting with unknown people over the Internet (National Society for the Prevention of Cruelty to Children-

NSPCC, 2015). It is true that such attitudes have been related mostly to cyber-bullying. Results of a three-year longitudinal study about cyber-bullying showed that participants from third to eight grades in the USA, who had accounts in many social network sites (SNSs), used to share their passwords with friends and got involved in cyber-bullying incidents (Meter & Bauman, 2015). However, the participants having fewer accounts in SNSs, who used to share their passwords, were not engaged in cyber-bullying.

It appears that awareness of the consequences of some attitudes related to Internet use can be important for adolescents but it is not the only aspect of a responsible Internet use that can automatically prevent PIU. Responsible Internet use can be conceived of as consequence-awareness and, additionally, as a self-awareness. Self-awareness or mindfulness is a focused attention to the moment-to-moment experience in a receptive and non-judgmental manner (Brown & Ryan, 2003; Weinstein & Ryan, 2011). Adolescents high in self-awareness (i.e. mindfulness) are attentive to and aware of environmental cues and their own inner experiences. Adolescents who are consciously engaged in activities can be involved in more responsible rather than impulsive Internet use. In the present study, responsible Internet use has been defined as both an awareness of the consequences of specific attitudes on the Internet as well as a mindful engagement on the Internet.

Prevention of PIU

The above literature review pointed out that adolescents' most likely engagement in PIU is when their psychological needs in real life are not satisfied, when they adopt avoidant coping, when they do not have self-control abilities, especially when they have low self-awareness (i.e. mindfulness), and when they are not aware of the

consequences of some behaviours on the net (online persona). Therefore, one would expect that programs aiming to cure or to prevent PIU would take into consideration these important factors that accompany PIU.

In this section, programs or interventions designed to prevent adolescents' PIU are presented and evaluated in terms of the degree to which the reasons for PIU have been addressed. Specifically, the programs have been evaluated using the following criteria:

1. Is the study or program an intervention or prevention program?
2. What aspects of the study or program are related to adolescents' need support?
3. What aspects of the study or program facilitate adaptive coping strategies?
4. What aspects of the study or program develop participants' mindfulness?
5. What aspects of the study or program raise participants' awareness of the risks of some behaviours in online life?

Studies or programs for PIU

Human values-oriented psycho-training's effect on PIU and cyber-bullying

This study by Peker (2013), an unpublished doctoral dissertation, was conducted to decrease problematic Internet use and cyber-bullying based on a human values-oriented psycho-training programme. This intervention aimed to increase at-risk students' awareness regarding PIU and cyber-bullying behaviours, improve self-control abilities and learn ICT in a responsible manner. There were 24 participants in Grade 9 and 10 between 14 to 16 years of age. Participants who got the highest scores on the Online Cognition Scale and the Cyber Victimization and Bullying Scale, and the lowest scores on the Human Values Scale were categorized and selected. Those students were then randomly assigned to an experimental or control

group. The intervention's main topics were based on human values and the activities were: noticing behaviours; showing responsibility; showing friendship; being peaceful; showing respect; displaying integrity; and, being tolerant in a cyber-environment.

The results of the intervention showed that the human values-oriented psycho-training programme decreased students' PIU and the cyber-bullying of those who suffered related to PIU. No aspects related to need satisfaction, mindfulness or coping strategies, except PIU and cyber-bullying of at risk students, were apparent when compared to the evaluation criterion.

The effects of digital citizenship based activities on students' attitudes in digital environments and reflections on the learning-teaching process in the 6th grade social studies course

This prevention study by Karaduman (2011), again an unpublished doctoral dissertation, aimed to increase at-risk students' awareness of responsible use and control in online environments through a social studies course in Grade 6 based on digital citizenship activities. Digital citizenship was defined as supporting and applying the behaviours which provide legal, ethical, safe and accountable usage of information and communication technologies in online environments. There were 60 participants in Grade 6, between the ages of 11 and 12. The social study course with embedded activities based on digital citizenship made a statistically significant effect on the attitudes of the students towards the ethics and accountability, communication, privacy and security, rights and access dimensions of digital citizenship. In addition, students developed positive attitudes to their social studies courses through digital citizenship activities. This prevention initiative does not deal with need satisfaction,

mindfulness or coping strategies (except digital citizenship), awareness of responsible Internet use, or attempts to control online life-at-risk students.

i-SAFE America

A non-profit foundation founded in 1988, i-SAFE America provides students with the awareness and knowledge they need to use the Internet appropriately (i-SAFE, 2015). Its mission is to educate and empower youth to make their Internet experiences safe and responsible throughout the K-12 curriculum. The goal is to educate students on how to avoid inappropriate, risky or unlawful online behavior. The i-SAFE America curriculum is based on Bruner's Constructive Learning Theory, i.e. students construct new ideas or concepts within their past/current knowledge, as an active process (Chibnall, Wallace, Leicht, & Lunghofer, 2006). The curriculum focuses on: increased awareness about digital citizenship; appropriate online behaviour; cyber-bullying awareness and response; social networking and chat rooms; e-safety education with critical thinking; active problem solving and decision-making skills; taking control of online experiences; peer-to-peer involvement; and, youth empowerment activities. Five core lessons for Internet safety include: living as a Net citizen in the cyber community; personal safety as a cyber-citizenship in the 21st century; technology and the computer viruses; plagiarism and the theft of intellectual property; and law enforcement and Internet safety for fifth and eighth graders. Each lesson is implemented during a 60-minute period, with youth empowerment activities to be implemented outside of the 60 minute lesson, such as creating brochures, displaying posters, writing newspaper articles, making presentations at school assemblies, and distributing fliers.

Chibnall et al. (2006) conducted a quasi-experimental, longitudinal study of the

effectiveness of the i-SAFE curriculum in teaching children about Internet safety. The design was implemented in 18 schools with 12 treatment and 6 comparison schools in six sites with more than 2000 children in USA. The evaluation included process evaluation (with a cost component) and an outcome evaluation. Data collection consisted of document reviews; focus groups with students; online survey of Internet knowledge and behaviour of fifth through eighth graders; interviews with principals and teachers. The outcome evaluation noted positive and significant changes in knowledge between the treatment and comparison groups, both on average and over time, but no significant changes were noted in behaviour between the treatment and comparison groups on all scales. This, it is important to note that no clear distinction between treatment and control groups was apparent when adolescents' skills learned through the programme were put into practice.

Referring to the above evaluation criteria, no aspects of need satisfaction, and mindfulness or coping strategies with avoidant strategies appeared in the program, with the except of digital citizenship, awareness of cyberbullying, e-safety, appropriate online users, and active problem solving skills in comparison with evaluation criterion.

Media Smarts

A non-profit foundation founded in 1994 under the auspices of the National Film Board of Canada, MediaSmarts' mission includes the development and delivery of high-quality Canadian-based digital and media literacy resources in Canadian schools and a contribution to the development of informed public policy on issues related to the media (Media Smarts, 2015). Critical thinking skills about media are at the core of the curriculum. Digital and media literacy skills, combined with critical

thinking, transforms young people into ethical and reflective media users with positive and creative ways of using the media. The web page provides different useful resources (i.e. online ethics, privacy, excessive Internet use, cyber-bullying, etc) for teachers, children, adolescents and parents in order to increase awareness of digital and media literacy as prevention principles. However, no research as to the effectiveness of the program is available. No aspects of need satisfaction, and mindfulness or coping strategies with avoidant strategies are apparent, except digital and media literacy skills, and positive usage of the Internet.

Common Sense Media: K-12 Digital citizenship curriculum

This is a resource for educators, families, and children and adolescents about digital citizenship (Common Sense Media, 2015). From the web-page the curriculum covers Internet safety, privacy & security, cyber-bullying, digital footprint, self-image, communication, and information literacy with critical thinking, ethical discussion, and decision making skills. The aim of this preventive curriculum increase to young persons' awareness, through the curriculum, of what it is to be a safe and responsible technology- user.

Again, no aspects of need satisfaction, and mindfulness or coping strategies with avoidant strategies are apparent, except digital citizenship, awareness of cyberbullying, e-safety, appropriate online user, and active problem solving skills.

Internet Keep Safe Coalition

iKeepSafe is a non-profit international alliance of more than 100 policy leaders, educators, law enforcement members, technology experts, public health experts and advocates, established in 2005 (Internet Keep Safe, 2015). It has created a collection of products and tools for educators, youth, and parents for implementing digital

citizenship and safety strategies. The aim of iKeepSafe as a preventive program is to increase awareness of new media devices and platforms in safe and healthy ways in order to create responsible digital citizenship. Once more, no aspects of need satisfaction, and mindfulness or coping strategies with avoidant strategies are apparent, except digital citizenship, awareness and safety usage of new media devices, e-safety, and responsible digital citizen.

Netsmartz

NetSmartz, created by the National Center for Missing & Exploited Children-NCMEC (2015), provides age-appropriate resources to help teach children how to be safer on- and off-line. The aims are to increase awareness of potential Internet risks and empower children to help prevent themselves engaging in those risks, with resources such as presentations, games, videos, or activity cards. The program is designed for children aged 5-17, educators, parents, and law enforcement people. No aspects appear related to need satisfaction, mindfulness, or coping strategies with avoidant strategies, except awareness of online risks.

In summary, then, when examining the above intervention and prevention programs, none of them have aimed to decrease PIU through promoting adolescents' need satisfaction, active coping strategies, or mindfulness during online engagement.

Problem statement

The afore-mentioned preventive programs, developed in the U.S.A. and Canada, have focused on developing different aspects of Internet life such as digital citizenship, responsible Internet use, and awareness of cyberbullying, and online risk prevention or intervention. Also, different aspects of PIU and its correlates are evident in the literature, such as anxiety, self-control, self-regulation, depression,

Internet addiction, and loneliness (LaRose, Lin, & Eastin, 2003; Yang et al., 2014; Yao & Zhong, 2014). It seems that most of the existing programs or interventions to prevent PIU focus on raising awareness of the consequences of some behaviours on the net, rather than creating a need-supportive environment in which students will develop active coping, mindfulness and awareness of the consequences of online behaviours. In most of the studies that investigated the negative relation of need satisfaction in real life and PIU, the role of other important correlates of PIU (i.e., coping, mindfulness and awareness of the consequences) have not been examined.

The benefit of the present study for preventing PIU is the investigation of early adolescents' coping strategies in adverse situations and their mindfulness in online engagement as the mediating mechanisms that link need satisfaction negatively with problematic Internet use. To date it appears that no study has yet been developed, which focuses as a goal on creating a need–supportive environment, or on the development of coping strategies and mindfulness during online engagement, with a view to gauging their impact on preventing PIU. Additionally, no study to date has determined the extent to which Turkish adolescents' unmet psychological needs or avoidant coping and low mindfulness are related to PIU. The current study, therefore, addresses this lack.

Purpose

The main purpose of the present research is to investigate the relationship of a non-risk group of early adolescents' need satisfaction, coping, mindfulness and awareness of consequences of online behaviours related to PIU, and to test the effectiveness of a small scale PIU preventive program on Turkish adolescents. For this purpose, two studies were carried out.

Study 1

As the above brief literature review shows, PIU could be a negative outcome of unmet psychological needs in real life. However, questions remain regarding the mediating psychological mechanisms that relate need frustration to PIU. According to Ntoumanis, Edmunds, and Duda's (2009) integrated model of stress, motivation and coping strategies are, amongst other factors (e.g., stress appraisals), the mediators between need satisfaction and cognitive, behavioral or emotional outcomes in stressful situations. Research has shown that relatedness need satisfaction and active coping are associated with higher posttraumatic growth (Yeung et al., 2016). It has also been shown that need frustration is related to threat appraisals and higher anxiety intensity (Quested et al., 2011), both predictors of avoidant coping (Skinner & Edge, 2002). Avoidant coping is positively correlated to negative outcomes such as: generalized Internet addiction (Brand et. al, 2014); higher stress appraisal and tendency to forget through going online (Deatherage et al., 2014); and, PIU (Hetzel-Riggin et al., 2011). It is assumed, therefore, that coping mediates the relationship between need satisfaction and PIU.

It is likewise assumed that PIU, as it is considered the outcome of avoidant coping, is accompanied by less online self-attention and awareness (i.e. mindfulness) (Weinstein et al., 2011), indicating that excessive engagement in Internet activities is a less optimal behavioral outcome. Indeed, impulsivity and low self-regulation skills, features that have been related to low mindfulness, are also related to PIU (Li et al., 2010; Li et al., 2013; Yu, Kim, & Hay, 2013). However, the relationship between mindfulness and PIU has not been studied. More importantly, mindfulness has been related to more benign stress appraisals and less avoidant coping (Weinstein, Brown,

& Ryan, 2009) and is considered as one of the protective factors against stress incursion as it is associated with effective stress processing (Weinstein & Ryan, 2011).

For these reasons, it was important to study the relationship of mindfulness with PIU in Study 1, while also considering the relationship of mindfulness with coping. Thus, the study considered both coping in stressful situations and mindfulness during online activities (i.e. state mindfulness) as the mediators in the relationship of need satisfaction to PIU. Study 1 also aimed to test the reliability of some widely-used measures for the assessment of need satisfaction, coping, mindfulness, online persona, and PIU with middle school students, with a view to using these instruments in Study 2. Study 1 adopted a cross-sectional study with Turkish early adolescents to meet the above objectives.

Study 2

The primary purpose of Study 2 was to design a small-scale prevention program based on the satisfaction of students' psychological needs, exploration of active coping strategies, mindfulness in online engagement, and awareness of consequences in online behaviours. The second purpose was to implement the program to non-risk students in a middle school to test its effectiveness in preventing PIU. For this reason a pre-and post-test quasi-experimental study was designed. Experimental and control groups were administered pre- and post-tests, but the experimental activities were conducted with the treatment group only. The third purpose was to fill a gap in the literature as no preventive programs for PIU existed in Turkey, as outlined above; in addition, up to now no existing USA/Canada programs had aimed to increase need satisfaction and to develop active coping and mindfulness.

Research questions

The two studies carried out, Study 1 and Study 2, aimed to answer the research questions presented below. For each question, different hypotheses were developed based on the related literature.

Study 1

Do coping strategies and mindfulness (as an aspect of responsible Internet use) mediate the relationship between non-risk early adolescents' need satisfaction and PIU?

According to Ntoumanis et al.'s (2009) integrated model, coping mediates between need satisfaction and emotional or behavioural outcomes. Specifically, research has shown that active coping is positively and avoidant coping negatively correlated with need satisfaction (Skinner et al., 2002) as well as with mindfulness (Weinstein et al., 2009). In a small number of studies it has also been found that offline need satisfaction is negatively related to problematic Internet use through specific psychological mechanisms (Masur, Reinecke, Ziegele, & Quiring, 2014; Wong, Yuen, & Li, 2015) and therefore the following hypotheses were formed:

1. Adolescent's need satisfaction in real life would be positively correlated with active coping and negatively correlated with avoidant coping.
2. Active coping would be positively and avoidant coping negatively related to mindfulness during engagement in Internet activities.
3. Active coping would be positively and avoidant coping negatively related to mindfulness during engagement in Internet activities through it to PIU.
4. Need satisfaction in real life would be negatively related to PIU via avoidant coping and low mindfulness in online activities.

Study 2

As no previous research exists about a preventive program that combined need satisfaction, coping strategies, responsible Internet use and PIU, the design of Study 2 relied on the outcomes of Study 1 for those factors. So, the main research question of Study 2 was the following statement:

What is the effect of a Mindful and Need-supportive Digital Life Responsibility Program on non-risk early adolescents' needs satisfaction, coping strategies, responsible Internet use and PIU?

The literature reveals that the implementation in school settings of mindfulness-based practices is associated with: improvement of well-being (Huppert & Johnson, 2010); increased resilience and mitigated risk factors (Gueldner & Feuerborn, 2016); and, enhanced attentional and emotional self-regulation and coping capacity (Meiklejohn et al., 2012). By contrast, a positive association exists between negative or avoidant coping strategies and Internet addiction (Li, Zhang, Li, Zhou, Zhao, & Wang, 2016). Some programs related to coping interventions, such as the Best of Coping Program (Frydenberg & Brandon, 2002, as cited in Frydenberg et al., 2004) and the Coping Power Program (Lochman & Wells, 2002), were effective for adolescents, particularly those at risk. However, a negative relationship was found between need satisfaction and PIU mediated by psychological distress (Wong et al., 2015). No literature was available on preventive studies using a SDT framework for PIU amongst adolescents in the school system. Therefore, conducting intervention designs in schools in a need-supportive environment aimed at increasing active coping strategies, and awareness of consequences of early adolescents' online behaviours, may contribute to decreasing PIU.

So, the hypotheses are as follows:

1. In the pre-test, experimental and control group will not differ regarding students need satisfaction in real life, coping, RIU and PIU.
2. In the post-test, experimental group will have higher need satisfaction in real life, active coping and RIU as well as lower avoidant coping and PIU compared to control group.
3. In the pre-test, experimental and control group will not differ in time spent on Internet.
4. In the post-test, experimental group spent less time on Internet compared to control group.
5. During the implementation of the Need-supportive and Mindful Digital Life Responsibility Program, the experimental group will be improving from session to session regarding the perceived need support and need satisfaction.
6. In the post-test, students in the experimental group will be able to identify:
    a. Aspects of the Mindful and Need-supportive Digital Life Responsibility Program that were meaningful for their daily life,
    b. Need-supportive experiences during the Program,
    c. Positive or negative aspects of the Program and
    d. Aspects that can be further improved in the future.

Significance

Study 1 aimed to investigate Turkish early adolescents' coping strategies in adverse situations and their mindfulness in online engagement as the mediating mechanisms that link need satisfaction negatively with problematic Internet use. Such an investigation was deemed worthy for two reasons. Firstly, it will contribute to a

better understanding of the mechanisms related to problematic versus harmonious Internet use in adolescence; and, secondly, as coping strategies and mindfulness are behavioral and cognitive patterns (Lazarus & Folkman, 1984) rather than emotional states, they are more receptive to learning and, therefore, could be the target patterns to be transformed in effective interventions for harmonious Internet use in adolescence.

Study 2, taking into consideration the results of Study 1, aimed to design a small-scale prevention program based on the satisfaction of early adolescents' psychological needs, exploration of types of active coping strategies, mindfulness in online engagement and awareness of consequences in online behaviours. Few preventive or intervention programs have been carried out in Turkey for PIU and cyber-bullying, apart from Peker (2013) and Karaduman (2011), with the latter more focussed on digital citizenship. No specific program is available which enables the development of digital life responsibilities and addresses the innate psychological needs, mindfulness and coping strategies during early adolescence. This research study fills a major gap in the literature in Turkey and contributes to psychologically healthy future generations by monitoring a new curriculum aimed at helping adolescents achieve optimal functioning. The study suggests to school counsellors or teachers activities that can be integrated in the regular curriculum to prevent PIU including cyber bullying as a misbehaviour Internet usage amongst adolescents at middle school. In addition, it is hoped that the study will encourage interdisciplinary work with computer course teachers on integrating such interventions into their course objectives.

Definition of terms

Problematic Internet Use: Problematic Internet Use is defined as the negative personal and professional consequences which stem from the cognitions and behaviours linked to Internet use (Caplan, 2002).

Need Satisfaction: People continuously attempt to satisfy basic innate psychological needs, i.e. the need for competence, the need for autonomy, and the need for relatedness based on SDT (Deci & Ryan, 2000). According to this theory, the satisfaction of these three psychological needs is characterized by engaging in optimal challenges, choice and volition, and belongingness and feelings of security, respectively. A link also exists between need satisfaction and greater psychological well-being.

Need-Supportive Environment: According to Self-determination Theory, individuals' satisfaction needs can be optimized when environmental contexts provide three components: autonomy support, structure, and involvement. Meeting the three needs are posited as a requirement for a person's growth, development, and wellness. A social environment that obstructs or meets these needs predicts optimal functioning, according to Deci and Ryan (2000).

Coping: Coping refers to individuals' ongoing cognitive and behavioral efforts to address resource-demanding situations (Lazarus & Folkman, 1984) and is considered an important mechanism of a person's optimal functioning.

Mindfulness: Mindfulness is focused attention to the moment-to-moment experience in a receptive and non-judgmental manner (Brown et al., 2003; Weinstein & Ryan, 2011). In this study, mindfulness means focused attention during online engagement.

Responsible Internet Use: Responsible Internet use is an awareness during online engagement with focused attention of a balanced use of the Internet, of an awareness of time allocated for school, healthy life, and relationships, and also an awareness of the consequences of activities with online persona.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Introduction

In the present study, the relation of need satisfaction in real life, coping, mindfulness and responsible use of online persona to PIU in early Turkish adolescents is examined. As part of the study, a Mindful and Need-supportive Digital Life Responsibility Program was designed and implemented to prevent PIU in adolescence. This preventive program relied, firstly, on Self-determination Theory's principle that a need-supportive environment is essential for humans' growth and well-being, and, secondly, on research findings showing that PIU is a maladaptive coping strategy related to unmet psychological needs. It aimed, therefore, to develop early adolescents' adaptive coping strategies to prevent PIU. Finally, the program relied on research findings showing that mindfulness can reduce impulsive responses to substitutes for psychological needs deprivation such as PIU.

In this chapter, the results of interventions related to the three aspects of the Mindful and Need-supportive Digital Life Responsibility Program will be presented. It is important to clarify that none of the below presented interventions were directly related to the prevention of PIU as up to now none of the PIU preventive programs have been based on need satisfaction, adaptive coping and mindfulness. In the first section of the chapter, interventions aiming to develop a need-supportive environment in educational or sport settings and their effectiveness will be discussed. In a second section, attempts to develop individuals adapting coping strategies will be described. In the third section of the chapter, interventions to increase mindfulness will be presented, while in the fourth and final section, how previous attempts to

foster need satisfaction, adaptive coping and mindfulness have been integrated into the suggested Mindful and Need-supportive Digital Life Responsibility Program will be presented.

Need-supportive environment

Self-Determination Theory's (SDT) research shows that optimal well-being is obtained when three psychological needs are satisfied by the social environment: autonomy (freely choose to pursue one's actions); competence (feeling capable); and relatedness (feeling connected and supported by others) (Deci & Ryan, 2000, 2008). Specifically, Cihangir-Çankaya (2009) found, in university students, a positive relation between their well-being and their family and friends' support of their need for autonomy. In a similar vein, Veronneau et al. (2005) found that, for third and seventh graders, satisfaction of need for autonomy and competence was negatively associated with concurrent levels of negative affect; satisfaction of need for competence was negatively associated with depressive symptoms; satisfaction of need for relatedness was positively associated with concurrent and future levels of positive affect, and finally satisfaction of all three needs was positively related to concurrent levels of positive affect.

The findings of research in adolescence show a similar pattern. Tian, Tian and Huebner (2016) found that teacher's and classmates' need support was positively related to adolescents' school-related subjective well-being (i.e., higher satisfaction with adolescents' school lives, more positive and fewer negative emotions during school hours). Also, the same study showed that these needs satisfaction at school partially mediated the relation between teacher support and school-related subjective well-being, and fully mediated the relation between classmate support and school-

related subjective well-being. Regarding the positive relation between well-being and need satisfaction in adolescence, Leversen, Danielsen, Birkeland, and Samdal (2012) found that competence and relatedness need satisfaction fully mediated the relationship between adolescents' activities and life satisfaction, while autonomy need satisfaction did not have any mediation effect, but a direct positive effect on life satisfaction.

Research has also shown that need satisfaction in real life is related to Internet use or PIU. For example, chronic frustration of the needs for autonomy, competence and relatedness in real life could lead to obsessive engagement with Internet applications such as online games (Przybylski et al., 2010). Also, a negative relationship has been found between need satisfaction and PIU mediated by psychological distress (Wong et al., 2015). When people developed psychological distress due to their unmet psychological needs in real life, they used the Internet in a problematic way. The above literature review supports the important role that the social environment (i.e. teachers, parents and peers) play in creating a need supportive context to promote children's and adolescents' resilience and well-being. A need supportive social environment can be identified specifically as the following: listening to children and teenagers in an empathetic way, supporting their self-disclosures, encouraging them to be actively involved in their learning process, avoiding uttering commands and controlling questions, guiding them when they are stuck, monitoring their progress and giving informative feedback (Reeve, 2006).

It is clear from the SDT literature that a major objective in preventing ill-being and maladaptive patterns of behaviour, cognition and affect on children and adolescents is to increase their needs satisfaction in real life. It is clear that PIU prevention

mainly depends on Internet users' need satisfaction in school and family life. However, few interventions have been designed to provide a need supportive environment to increase well-being at school; most of them were applied to physical education classes while none of them aimed to decrease PIU, a wide used maladaptive pattern of behaviour nowadays.

Among the very few intervention programs that do not concern physical education classes one can find Kaplan and Assor's (2012) program to increase autonomy amongst school learners, using an I-Thou dialogue. An I-Thou dialogue occurs when two or more people converse and create a meaningful dialogue in the school environment. This program was applied to 7th grade students (n = 420) and lasted two years. The program, in order to support students' needs, provided a framework based on the following autonomy supportive behaviours: empathetic listening; accepting students' views or desires; offering choices to students; minimizing criticism in terms of increasing awareness of teachers' own feelings and needs. This program showed an increase in students' positive emotions and in dialogue between students and teachers about the relevance of studies to students' lives. The program also showed a decrease in students' negative emotions and in classroom violence.

While intervention programs to increase students' well-being through need supportive teaching in classes other than physical education ones are rare, there are a considerable number of experimental studies in physical education that have shown the benefits of students optimal functioning when teachers are educated to be autonomy supportive. Cheon, Reeve and Moon (2012) randomly assigned nineteen physical education teachers to an experimental and a control group. The teachers in the experimental group received three-stage training in autonomy supportive

teaching during a spring semester. The teachers in the control group received this training at the end of the spring semester. The students of the nineteen teachers as well as observers rated the teachers in the experimental group higher in autonomy support compared to the teachers in the control group, providing evidence that the autonomy supportive training was effective. More importantly, the students of the teachers in the experimental group reported higher autonomous motivation, class engagement, skill development, intention to repeat the activities and academic achievement and less amotivation than the students of the teachers of the control group in a mid-semester and end-of-semester assessment. In a supplementary analysis, Cheon and his colleagues (2012) found that the significant differences in the outcomes of the students of the trained teachers are the result of their need satisfaction during the semester. It is worthy of note that in a one-year follow-up investigation the students of the teachers in the experimental group had still higher positive outcomes (e.g. autonomous motivation and academic achievement) than the students of the teachers in the control group (Cheon & Reeve, 2013).

In many other studies in the physical education context researchers have found similar results. Leptokaridou, Vlachopoulos and Papaioannou (2016) found in a sample of elementary school students that when physical education teachers are trained in being autonomy supportive their students keep constant their positive motivation in the physical education class. In contrast, the students of non-trained physical education teachers decreased their positive motivation over three months. However, it seems that not only students get benefits from teachers training in autonomy supportive teaching, but the teacher as well. In a training program for elementary, middle school and high school physical education teachers that aimed to educate them in autonomy supportive teaching, the trained teachers reported higher

need satisfaction during teaching, greater teaching motivation, teaching efficacy, and well-being compared to a control group of teachers who did not receive any training (Cheon, Reeve, Yu, & Jang, 2014). Furthermore, the students of the trained teachers increased their needs satisfaction and decreased their need frustration during the intervention (Cheon et al., 2014). To further investigate this finding, Cheon, Reeve and Song (2016) showed in an experimental study that the students of an experimental group of teachers who were trained in autonomy supportive teaching reported not only higher need satisfaction and motivation compared to the students in the control group of teachers who were not trained in autonomy supportive teaching, but also lower need frustration and amotivation. It seems that when teachers are autonomy supportive, they foster students' brighter side and at the same time they moderate students' darker side (Cheon et al., 2016).

Revealing the importance of need supportive teaching for students' well-being, researchers were also interested in studying what facilitates teachers to be autonomy supportive. The findings of this line of research showed that an intervention to educate teachers in autonomy supportive teaching is more effective when they believe that autonomy support is effective (e.g. "Oh, this is more effective than I thought it would be.") and more importantly, when they believe that autonomy supportive teaching is easy-to-implement (e.g., "Oh, this is easier than I thought it would be.") (Reeve & Cheon, 2016). In a similar vein, another study showed that the experience of need satisfaction during a training program for autonomy supportive and structured teaching, provoked changes in physical education teachers' beliefs about the effectiveness and the feasibility of a need supportive teaching (Aelterman, Vansteenkiste, Van Keer, & Haerens, 2016) . When teachers experienced a need supportive environment during their training, they were more positive toward need

supportive teaching. Moreover, when the trained teachers reported high levels of application of structuring in their classes, they had also high intention to apply those strategies again (Aelterman et al., 2016).

But what were the strategies to which teachers were trained in all the above interventions? As those interventions proved effective for students need satisfaction and optimal functioning, it is important to clarify what was the content of teachers training. As the purpose of the present study is to set up a need supportive digital life responsibility program, such a clarification is informative for the strategies that the program of the present study will follow. In the studies carried out by Cheon and his associates, the Autonomy-Supportive Intervention Program (ASIP) was used to train the teachers in three workshops during 12 weeks (Cheon et al., 2014). In these three workshops the teachers received direct (through the active style of the coordinator of the workshop) and symbolic modelling (through videotapes of autonomy supportive teaching) as well as vicarious experiences (through group discussions). The purpose was for the teachers to learn to:

> (a) take their students' perspective during instruction, (b) offer learning activities in ways that nurture rather than neglect or thwart students' psychological needs, (c) communicate with non-controlling and informational language, (d) provide explanatory rationales for their requests and requirements, (e) display patience, and (f) acknowledge and accept students' expressions of negative feelings. (Cheon et al., 2014, p. 332)

In Aelterman and associates' studies (Aelterman et al., 2013; 2016), teachers were trained in a one-day workshop divided into three parts. Lectures, videos and experiential activities were used in order for the teachers to practice a specific set of strategies for autonomy support and a specific set of strategies to support students' need for competence. Regarding the autonomy supportive teaching, the training

focused on developing the following strategies:

> (1) adopting an empathic attitude, (2) providing choice, (3) offering a meaningful rationale, and (4) integrating fun elements. (Aelterman et al., 2016, p. 66)

Concerning the strategies to support students need for competence, the training program aimed for the teachers to develop the following attitudes:

> (1) giving an overview of the forthcoming lesson, (2) communicating expectations, (3) avoiding the provision of unnecessary information by asking questions, (4) giving positive, informational feedback and (5) offering help when needed. (Aelterman et al., 2016, p. 66)

Comparing the qualities that teachers were aiming to develop in the two training programs the first difference is that Aelterman's and her associate's (2013; 2016) program includes training in supporting students' need for competence, while a similarity between the two programs was that both of them developed autonomy supportive teaching. However, the strategies the programs emphasized for the need supportive teaching were not identical. While, in Aelterman et al. (2013; 2016) provision of choice and fun elements were target strategies, in Cheon et al. (2012; 2014) those strategies were not targeted. On the other hand, the strategy to communicate with students in a noncontrolling and informational language, which was practiced in Cheon et al.'s (2012; 2014) training, was not included in Aelterman et al.'s (2013; 2016) program. At this point, it is important to mention that this strategy was revealed as the most effective one in a meta-analysis of the effectiveness of interventions to increase autonomy supportive teaching (Su & Reeve, 2011). It seems, therefore, that an update to the literature on need supportive programs should take into consideration all these elements and carefully select the most effective approaches to support students' psychological needs.

An important conclusion of the above review on the effects of training teachers to become need supportive on students and teachers optimal functioning is that most of the studies have focused on teachers' autonomy support and in very few studies (e.g. Aelterman et al., 2016) interventions focused on training teachers to provide structure as a support for their students need for competence. Moreover, none of the studies mentioned above focused on training the teachers to support students need for relatedness and studying the effects of such training on students functioning. It is important also to mention that none of these experimental studies investigated the effects of need supportive teaching on other aspects of students' functionality such as Internet use.

It is possible that focussing on the satisfaction of the three psychological needs in preventive programs could potentially reduce the risks associated with PIU. However, no literature seems available on preventive interventions using an SDT framework for problematic Internet use amongst adolescents in the school system. This is clearly a lack which will be tackled in the current research study.

Adaptive coping strategies: Correlates and interventions

There are demanding situations in an adolescent's life related to dealing with or finding a balance among school jobs, family and peer relationships. Sometimes these demanding situations could lead to increased stress in adolescents' lives and means for coping with stress need to be adopted. Coping is defined as management of psychological stress with cognitive and behavioural efforts according to a person's available resources (Lazarus, 1993). Different coping strategies lead to positive or negative outcomes and therefore, scholars have used different terms to categorize accordingly the coping strategies, such as adaptive and maladaptive, approach and

avoidant, engagement and disengagement, problem-focused and emotion-focused, and primary and secondary (Skinner, Edge, Altman, & Sherwood, 2003; Rosenberg, Burt, Forehand, & Paysnick, 2016; Clarke, 2006; Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Skinner & Edge, 2002; Smith, Saklofske, Keefer, & Tremblay, 2016). For all these different categorizations the common element, Lewis and Frydenberg (2004) found that adolescents' adaptive strategies were more problem-focused (i.e., problem-solving, focusing on the positive and working hard) and their maladaptive strategies were more emotion-focused (i.e., wishful thinking, worry, reduction, self-blame, keep to self, and ignore). In a similar vein, engagement versus disengagement strategies are examined, with problem solving and support seeking as adaptive strategies, but avoidance and social withdrawal as maladaptive coping strategies (Compas et al., 2001).

Adaptive coping strategies are associated with positive outcomes such as problem-focus (Penley, Tomaka , & Wiebe, 2002), adaptive stress adjustment (Compas et al., 2001), less externalizing problems (e.g., aggression) and higher social competence (Clarke, 2006), decrease internalized problems (e.g., depression) (Rosenberg, Burt, Forehand, & Paysnick, 2016), high personal resilience (Smith et al., 2016), and well-being (Frydenberg & Lewis, 2009). On the other hand, maladaptive coping strategies (e.g. avoidant) are linked with high levels of depressive symptoms (Seiffge-Krenke & Klessinger, 2000), less well-being and greater stress (Frydenberg & Lewis, 2009). Sometimes, although using avoidant coping strategies (e.g. avoidance and withdrawal) seems profitable for adolescents in the short term, particularly in the case of highly stressful situations, in the long term these adolescents are not able, without social support, to make the distinction between types of stressors and

features of stressful events which turn to maladaptive functioning (Seiffge-Krenke, 2004).

Researchers investigated how adolescents perceived and coped with parent- and peer-related stress from 18 countries in five regions around the world (Persike & Seiffge-Krenke, 2016). According to this study, adolescents from all countries used more adaptive (active and internal) coping strategies to overcome stress than maladaptive (withdrawal). Also, adolescents had a greater perception of parent-related stress than peer-related stress. In addition, they used a higher level of adaptive strategies (e.g. addressing the problem directly with the person concerned and seeking support from friends) when dealing with peer-related stress.

In terms of gender for coping, females preferred to use adaptive (active) coping strategies compared to males, who had a higher score in withdrawal (Gelhaar et al., 2007; Persike et al., 2016). In addition, the girls who used more social support as adaptive strategies, showed higher perceived interpersonal stress compared to the boys. Perceived stress and maladaptive coping were linked with adjustment problems positively, but problem-focused and emotion-focused coping were associated with emotional and behavioural problems negatively. These connections were more powerful in female than male adolescents (Hampel & Petermann, 2006).

The effects of age on perceived interpersonal stress and coping were investigated among adolescents by Hampel and Petermann (2006) who found that sixth and seventh graders had less adaptive coping strategies (situation control, social support, minimization and distraction, and positive self-instructions) and more maladaptive coping strategies (passive avoidance, rumination, resignation, and aggression) compared to fifth graders. On the other hand, Gelhaar et al. (2007) found that active

coping (as adaptive) was highly used by early adolescents while internal coping (as adaptive) was most prominent in late adolescents. It seems that adolescents' reactions to stress could be differentiated in terms of their relationship with peers and parents, gender, and age.

In our modern age, adolescents' reactions to stress in daily life can easily move to the Internet arena through social networks or online games, etc. The use of social media-mediated communication was investigated by Ahn and Shin (2013). Results showed that social networking was related to seeking connectedness; avoiding social isolation by replacing real social interactions with online social interaction. Similarly, stressful life events contributed to generalized problematic Internet use (including spending abnormal amounts of time on the net, or wasting time) which is also associated with more maladaptive coping (avoidant strategies such as withdrawal, self-blame, fantasy, or rationalization), and less adaptive coping (problem-solving) strategies (Li, Wang, & Wang, 2009). A meta-analysis conducted by Trnka et al. (2016) showed that avoidant coping strategies were linked to higher PIU and cyber victimisation, perception of stress and high risk of Internet addiction. In the same direction, Li et al. (2016) found avoidant coping to be positively related to Internet addiction. More importantly, Cheng, Sun and Mak (2015), pointed out that avoidant coping and coping inflexibility are psychological mechanisms that explain the link between Internet addiction and psychosocial maladjustment.

In conclusion, adaptive coping strategies such as problem solving or seeking support are associated with well-being and less PIU and, therefore, the development of those strategies in adolescents could contribute to the prevention of PIU.

In the literature, however, references to programs that promote adaptive coping in adolescence are scarce. An example of such a program is Frydenberg & Brandon's "Best of Coping Program (BOC)" (2002) (as cited in Frydenberg et al., 2004). The BOC program is based on the Coping Theory of Lazarus (1991) and the Berkeley group, and the extension of this work into the Australian context (Frydenberg et al., 2004). According to basic elements of the Program, the concept of cognitive appraisal in the Lazarus' model is used as an intrinsic part of the coping process. When an individual is exposed to a stressful situation, s/he could got a form primary appraisal by asking "What is at stake?" and a secondary appraisal by asking "What are the resources available to me?". These coping resources are developed in the BOC. The Program includes training in the development of cognitive-behavioral skills and awareness of operational components of the following 18 conceptual areas of coping: seeking social support, focusing on solving the problem, working hard, worry, investing in close friends, seeking to belong, wishful thinking, social action, tension reduction, not coping, ignoring, self-blame, keeping to self, seeking spiritual support, focusing on the positive, seeking professional help, seeking relaxing diversions, and physical recreation.

The Program consists of 10 one-hour weekly sessions, with a team approach used for implementation of the Program. The team includes school psychologists/counsellors and classroom teachers for whole class groups. Core components of the Program encompass teaching skills related to adaptive problem-solving, decision-making, effective communication, optimistic thinking, time management, and goal setting. The general aim of the Program is to promote the well-being of adolescents through adaptive coping strategies.

Examining the content of the Program, Session 1 introduced a Map of Coping which means how individuals cope with difficult situations, and explored a variety of coping strategies. Session 2 included Good Thinking links with creating awareness of the connection between thoughts and feelings, learning to evaluate or appraise events, and changing thinking. Session 3 had Strategies That Do Not Help, which means looking at non-productive coping strategies and exploring alternatives. Sessions 4 and 5 were related to communication skills which were Getting Along with Others, and Asking for Help. Sessions 6 and 7 included teaching of Problem Solving Steps and exploring how to make Good Decisions, respectively. Sessions 8 and 9 included teaching Goal Setting and exploring effective Goal Getting. Finally, Session 10 focused on Managing Time effectively.

The impact of the BOC Program on students' coping skills was investigated by Frydenberg et al. (2004). In their study, the Program was implemented in two schools in four studies, which are outlined below. Three coping styles were determined in the study such as *solving the problem* (focus on solving the problem, seeking social support, seeking relaxing diversions, physical recreation, investing in close friends, seeking to belong, working hard and achieving, and focusing on the positive), *reference to others* (social action, seeking professional help, seeking social support, and seeking spiritual support), and *non-productive coping* (ignoring the problem, not coping, wishful thinking, seeking to belong, worrying, self-blame, keeping to self, and tension reduction). The coping styles were identified as either adaptive (productive or desirable) coping responses or maladaptive (non-productive or undesirable) coping responses.

The Program was implemented by a school counsellor in a high school with year 10

(16-17 years old); Study 1 was without a control group. The results of this study showed that there was a significant increase in the coping style *reference to others* in males when compared to females.

In Study 2, the Program was implemented in the same high school and grade level by a facilitator unfamiliar to the adolescents. The participants, in Study 2, were divided into "at risk", "resilient" and "main" groups. The "at risk" group consisted of adolescents considered to be at risk for depression, and the "resilient" group consisted of adolescents considered to be resistant to the development of depression. The remaining adolescents were labelled the "main" group. The findings of this study revealed that there was a decrease in maladaptive coping in the "at risk" group, but an increase of it in the "resilient" and "main" groups.

Also, all three groups had increased mean scores in the *reference to others* coping strategy. In addition, the mean scores of emotion-focused coping skills increased in "at risk" and "main" groups, but decreased in the "resilient" group. Furthermore, means scores of problem-focused skills decreased in all groups.

Two years later, the following two studies were conducted in the same school by the school's own teachers. In Study 3, the Programme was implemented in year 7 by the school's own teacher and the school psychologist in collaboration. A control group was also included in Study 3. Results of the study showed that there was a significant difference between intervention and control groups for self-efficacy. Students in the intervention group had higher self-efficacy than the students in the control group. Furthermore, maladaptive coping skills (worrying, seeking to belong, wishful thinking, not coping, keeping to self, spiritual support and, probably most

importantly, self-blame) significantly decreased in the intervention group compared to the control group in which maladaptive coping strategies increased.

In Study 4, the Program was again implemented in Grade 7 to an experimental and a control group. This time, pastoral care teachers conducted the Programme after being trained by a psychologist. Results of this fourth study showed that the Program had no effects on students' coping strategies.

In conclusion, the BOC Programme was effective for students, particularly for those at risk. It seems that students at risk are more susceptible to adaptive changes in their coping strategies than resilient average students. Moreover, it seems that when the Program is delivered by teachers and school counsellors in collaboration, the results are more optimal.

The Coping Power Program is another example of a preventive program. It is a school based program which develops social competence, self-regulation, and positive involvement for children at risk in the late elementary and early middle school years (Coping Power, 2015). The Coping Power Child Component was developed by Lochman, Lenhart and Wells (1996) (as cited in Lochman et al., 2002). The Coping Power Child Component consisted of 34 structured cognitive-behavioral group sessions for the selected children. The sessions were designed to positively affect the child's ability problem-solving skills, social skills, anger management skills, ability to set short and long term goals, organization and study skills, entry into positive peer groups, and ability to resist peer pressure. Teachers' training in the Coping Power Program was conducted in a workshop format. Training included hands-on experience to learn and practice intervention techniques, discussions, presentations, and videotape modelling of the intervention. The Program lasted 15 to

18 months in its full form. As an implementation requirement, each elementary and middle school had to have at least one full-time, master's-level counsellor with related functions on their staff. In addition, the program had a parent-intervention component with 16 group sessions and periodic home visits and individual contacts.

A study examined the effectiveness of the Coping Power Program (Lochman et al., 2002). In this study, children of Year 4 from 17 elementary schools were assessed by their teachers regarding their aggressive and disruptive behaviours (poor self-regulation and poor self-control) so as to identify those who were at risk. The program was delivered to the students at risk in Year 5 and 6. It lasted 15 months and 22 and 12 group sessions took place in Years 5 and 6, respectively. The 60 Year 5 classes in the 17 elementary schools were randomly assigned to either intervention or control groups. Findings of the study showed that the intervention had a positive effect on preadolescents' social competence, self- regulation, decrease of substance use, and parents' parenting skills.

In conclusion, there are certain similarities as well as a number of key differences between the BOC Program and The Coping Power Program. Both forms of intervention included cognitive-behavioral components and the core adaptive coping to be developed was problem-solving skills, organization and study skills, and goal setting. Also in both programs, results were better when implementation was done by teachers and counsellors in collaboration and when the target group was students at risk. However, despite these similarities, the interventions differed on a number of dimensions. Although, the BOC Program lasted 10 weeks, the Coping Power Program lasted 15-18 months. In addition, the Coping Power Program had a parent component as well as a child component, while the BOC had none. As regards the

differences in the content of the programs' coping strategies, the BOC included practice of decision-making, effective communication, and optimistic thinking skills, while the Coping Power Program included practice of social skills, anger management, and peer coping skills (entry into positive peer groups, and ability to resist to peer pressure).

Finally, it can be seen that those interventions seem to be beneficial for the development of adaptive coping strategies in terms of problem-solving skills, self-regulation and social competence skills, all of which are important skills for adolescents' well-being, as mentioned above. However, in none of these programs was the development of the adaptive coping and skills seen as the means to prevent PIU in adolescents. A combined intervention program, with reference to the BOC and the Power Program, could be designed to prevent, amongst other things, PIU.

Correlates of mindfulness and interventions

Mindfulness is, as defined in the previous chapter, a nonreactive awareness of ongoing subjective experience (Brown et al., 2003). Research has shown that mindfulness is related to adaptive patterns of behaviour, affect and cognition. For example, research demonstrated that mindfulness is negatively associated with avoidant coping strategies, and positively with adaptive stress responses (Weinstein, Brown, & Ryan, 2009). It has been also shown that mindfulness is related to enhanced emotion regulation such as reduced intensity of distress and emotional recovery (Roemer, Williston, & Rollins, 2015), relieved stress and positive school climate (Wisner, 2014), and an increased sense of connection with others in daily life (Quaglia, Goodman, & Brown, 2015). Studies also showed that emotional well-being of stressed adolescents was cultivated by mindfulness and self-compassion

(Galla, 2016), and that being nonreactive and non-judgmental was a buffer to stress associated with a dysphoric mood in adolescents (Ciesla, Reilly, Dickson, Emanuel, & Updegraff, 2012). As regards well-being, a study showed that basic psychological needs fulfilment mediated the relationship between mindfulness and well-being in both the hedonic (positive affect and life satisfaction) and eudaimonic domains (self-acceptance, environmental mastery, positive relations with others, personal growth, purpose in life, and autonomy) (Chang, Huang, & Lin, 2015).

Research has also shown that mindfulness is negatively related to maladaptive patterns of online behavior, affect and cognition. Problematic Internet use including media addiction was re-defined by LaRose, Lin and Eastin (2003) as unregulated media behavior linked to deficient self-regulation (i.e. monitoring, judging, and adjusting your own behavior as media consumer). Hence, this media consumption behavior (i.e. check SNSs or e-mails) can turn into conscious or unconscious processes having sometimes the form of automaticity, of a habit with repeated media behavior (LaRose, 2010). There are four dimensions to this automaticity: lack of awareness, attention, intentionality, and controllability. They are related to deficient self-regulation, viz. functions of self-observation, judgment and self-reactive. A diminished self-control allows automatic processes to the behaviour, while media consumption cannot be strictly a habit when executive control of the mental energy intervenes in the decision making process of the repeated behavior (LaRose et al., 2003; LaRose, 2010). From this point of view, both automaticity (low conscious state, including habit or impulse) and immersion (high conscious state, behavioral attention and awareness, including flow, engagement, etc.) coexist in texting behavior in mobile communications, however texting automaticity has been

negatively related to aspects of mindfulness while texting immersion has been positively related to the awareness aspect of mindfulness (Bayer, Dal Cin, Campbell, & Panek, 2016). Similarly, Gámez-Guadix and Calvete (2016) found that higher levels of mindful awareness were related to less preference for online social interaction, which, in turn, decreased deficient self-regulation of Internet use, and negative outcomes of PIU. It seems that mindfulness can prevent or decrease automatic engagement in technological applications as it encompasses paying purposeful attention in the present moment (Kabat-Zinn, 2003) with continuously observing internal and external experiences in a non-judgmental manner (Baer, 2003).

The above findings show that mindfulness is associated with increased well-being and optimal functioning. Therefore, mindfulness can be considered as an effective component of programs for the prevention of PIU. Up to now mindfulness has been practiced in mindfulness-based interventions for stress reduction and in acceptance commitment therapy to increase children's adolescent quality of life in clinical and non-clinical samples (Kallapiran, Koo, Kirubakaran, & Hancock, 2015).

A mindfulness curriculum, for example, Learning to BREATHE, was implemented with high school students by Broderick and Metz (2009). The objectives of the Program were to help adolescents to understand their own feelings and thoughts, to regulate their negative emotions by practicing these skills in a group setting, and to cultivate emotional balance. This practice of emotion regulation skills was carried out in classroom settings for six weeks. Each lesson had a core theme such as body awareness, understanding and working with thoughts, understanding and working with feelings, integrating awareness of thoughts, feelings and bodily sensations,

reducing harmful self-judgments, and integrating mindful awareness into daily life. In addition, each lesson encompassed a short introduction of the theme, some group activities and discussion, in-class mindfulness meditation practice, with workbooks and CDs for home meditation practice.

The Program was prepared based on the assumption that adolescent development can occur through the construction of identity and autonomy. A pre-test and post-test control group design was applied to evaluate the Program. According to the findings, adolescents in the experimental group indicated increased emotion regulation, greater awareness of their feelings, increased feelings of calmness, relaxation, and self-acceptance, as well as decreased negative affect, less tiredness and aches and lower levels of pain compared to the control group. The Program components (body scan, meditation practice, mindful movement practice, loving-kindness meditation, and class discussion), the specific class activities/exercises, the workbook, the CDs, and the quality of the instructor, as well as participants' overall satisfaction were assessed on a scale (from least useful/satisfied to most useful/satisfied). The results of the Program's evaluation indicated a high degree of participant satisfaction.

In addition to the Learning to BREATHE Program, in the literature there are group psychotherapy interventions to develop mindfulness in children and young adults (Semple, Lee, Rosa, & Miller, 2010; Yao et al., 2017). For example, a mindfulness-based cognitive therapy for children from 9–13 years of age was developed by Semple et al. (2010) to increase social-emotional resiliency through the enhancement of mindful attention. This was a 12-week program consisting of 90-minute weekly sessions, with up to eight child patients with one or two therapists. The mindfulness exercises included: a variety of simple sensory exercises to heighten non-judgmental

awareness of perceptual experiences (visual, auditory, tactile, olfactory, gustatory, and kinaesthetic sensations) and intrapsychic events (thoughts, emotions); group interactions with games, activities, and movement; sensory activities; short breath meditations; mindful body scan and movements; visualization practice, and drawing or writing exercises. At the same time, parents of those children were invited to attend two therapist-conducted mindfulness sessions, separately from their children's sessions. At the end of each session, each child received materials to take home including written session summaries, home practice instructions, and a log to record the daily home practices. This mindfulness-based cognitive therapy was effective in decreasing anxiety symptoms as well as behavioural and attention problems in the 9-13 year old children.

Another example of a psychotherapeutic intervention is a program which combined a reality therapy and mindfulness mediation to young adults with Internet gaming disorder (Yao et al., 2017). This group behavioral intervention was conducted over six weeks with two hour weekly sessions, which aimed to decrease decisional impulsivity, making use of reality therapy. The objectives of this intervention included: recognition of impulsivity; exploration of the influence of impulsive gaming and goal setting; evaluation and reflection on the current situations; analysis of the psychological needs behind the impulsive gaming and exploration of alternative activities to meet these needs; learning of impulsivity-related mental and emotional states and overcoming the impulse of wanting to game; summarizing the past and making plans for the future. At the end of each session a brief mindfulness meditation was conducted. According to the findings of this study the reality therapy and mindfulness mediation decreased intertemporal decision making and Internet

gaming disorder severity in young adults with Internet gaming disorder. But the intervention had no effect on the decisional impulsivity in risky choices.

In conclusion, mindfulness seems an important aspect of adolescents' well-being which can be developed through specific interventions. A mindful intervention could be beneficial for adaptive and functional responses to stress as well as to decision impulsivity, both related to PIU. It seems that a mindfulness component in a program designed to prevent PIU could be an asset. Elements of the Learning to BREATHE Program (Broderick et al., 2009), the reality therapy and mindfulness mediation (Yao et al., 2017), and the mindfulness-based cognitive therapy for children (Semple et al., 2010) can be transferred into a new program design. More specifically, awareness and understanding of thoughts and feelings, bodily sensations during Internet use, and evaluation and reflection on the current situation are elements that have been selected as the most important in the prevention of PIU.

The mindful and need-supportive digital life responsibility program

As it has been shown from the above literature review, interventions have been designed to increase individuals' need satisfaction, adaptive coping strategies, and mindfulness in an attempt to enhance optimal functioning and well-being. However, while the purpose of these interventions seems to be common, no intervention has been designed to integrate all the three important aspects of well-being, that is need satisfaction, adaptive coping strategies and mindfulness. In the present study as the aim was to design a program to prevent PIU, the outcome of unmet psychological needs, dysfunctional coping and loss of self-control, it was deemed important to integrate in the program strategies related to the satisfaction of the three basic psychological needs, as well as the development of adaptive coping and mindfulness for non-at risk early adolescents.

The need satisfaction component of the MiNDLifeResP

In the design of the program, different strategies were followed for each of the three basic psychological needs; the need for autonomy, competence and relatedness. Regarding the need for autonomy, as suggested by the studies of Reeve (2006) and Kaplan et al. (2012), an empathetic attitude was adopted, as well as an acceptance of students' opinions and avoidance of criticism. Furthermore, support for the need for autonomy was provided by offering choices to students regarding their assignments, offering meaningful and explanatory rationales, and integrating fun elements in the activities as Cheon et al. (2014), and Aelterman et al. (2013; 2016) have suggested. In addition, in the program, need for autonomy was supported by creating opportunities for students to practice the activities in their own way, offering choices to the students regarding friends or topics in different groups, or homework, and giving enough time to them to talk during the activities.

Regarding satisfaction of the need for competence, the following strategies were adopted. At the beginning of each session an overview of the purpose and the activities were given. For student participation in the activities informational feedback was provided, while the students were supported by the researcher during the activities whenever they asked, as Aelterman et al. (2016) have suggested. In addition, the need for competence was supported by encouraging effort and persistence in activities.

The strategies adopted by the program to satisfy students need for relatedness were some of the innovative aspects of MiNDLifeResP as in none of the interventions found in the literature had been included. The need for relatedness is defined as the sense of belongingness and connectedness with others (Deci & Ryan, 2000; 2008).

Therefore, the MiNDLifeResP aimed to support cooperation and group work, provide individualized support related to tasks, create a caring environment, and develop positive communication during the activities. Hence, need for relatedness was satisfied by listening carefully to students, offering opportunities for students to participate, being responsive to students' questions, and acknowledging students' perspectives.

The adaptive coping component of the MiNDLifeResP

To develop students' adaptive coping, the MiNDLifeResP relied on BOC Program (2002) (as cited in Frydenberg et al., 2004) and the Coping Power Program (Lochman, Lenhart, & Wells, 1996; as cited in Lochman, et al., 2002) with an attempt to increase the use of problem solving strategies and self-regulation and time management skills. In addition, using online life scenarios, the MiNDLifeResP aimed to develop effective communication and optimistic thinking skills, elements adopted by the BOC, as well as to practice social skills as the Coping Power Program did. On the other hand, reflective thinking processes, and "If you were .." questions in scenarios as well as a focus on positive attitudes in online life, were the new components of the MiNDLifeResP.

The mindfulness component of the MiNDLifeResP

In the MiNDLifeResP, mindfulness was developed by adopting the strategies of previous interventions. Strategies such as understanding and working with thoughts and feelings, body awareness, integrating awareness of thoughts, feelings and bodily sensations, were adopted from the Learning to BREATHE Program (Broderick et al., 2009). Furthermore, the evaluation of and reflection on the current situation were adopted from reality therapy and mindfulness mediation (Yao et al., 2017) as a

strategy in the MiNDLifeResP, as well as the exploration of thoughts and emotions as intrapsychic events from mindfulness-based cognitive therapy for children (Semple et al., 2010). All the adopted elements where adapted accordingly so as to fit with the other components of the MiNDLifeResP.

The responsible Internet use component of the MiNDLifeResP

Regarding the responsible Internet use component of the MiNDLifeResP, elements were adopted, such as awareness of the consequences of sharing passwords with friends, posting personal statements or photos in social network, visiting illegal websites, or interacting with unknown people over the Internet, from the UK Children's Charity (National Society for the Prevention of Cruelty to Children-NSPCC, 2015).

The content of the MiNDLifeResP

The MiNDLifeRes Program consists of 10 eighty minute weekly sessions. The content of the MiNDLifeRes Program (See Appendix H: MiNDLifeRes Program, p. 205) is presented session by session, while a summary of the sessions is included in Table 1 below.

Session 1 introduced differences and similarities in real and digital life. The objective of the session was for students to become familiar with concepts related to digital life such as digital native, digital immigrant, and digital citizenship. The method followed was whole group discussion. As this session was the introductory one, the researcher invited the students to sit in a circular seating arrangement, in which each student could see each other. This seating arrangement was called circle time, and during this time explanations regarding group activities were made.

Session 2 was related to digital identity. The objective of the session was to raise awareness of the importance of the digital footprint as well as of the attitudes, behaviours, or actions that affect digital identity. Strategies for the session centred around an inquiry into the meaning of identity, with small group discussions using different scenarios regarding digital identity and footprint.

Session 3 was related to feelings in real and digital life. The objectives of the session were (a) to raise awareness of feelings in real life and online life, thoughts and bodily change related to feelings, and (b) to explore how thoughts may lead to stress or variety of problems in using the Internet, and problem solving strategies related to those stressful experiences. Case studies in online life were used as a method and students' thoughts, feelings and problem solving strategies were explored through "If you were …" questions related to being a responsible Internet user.

Session 4 aimed to explore the extent to which feelings on the Internet can be contagious. Again, case studies were used to instigate students' reflection on feelings such as shame, revenge, anger in online life, as part of group work. The participants were asked, if they were to rewrite or recomplete these scenarios, how they could be different, as well as focusing on positive attitudes in the Internet.

Session 5 aimed to raise awareness of the factors that trigger the stress as well as the body's reactions to it. A list of possible stress situations, triggers and responses related to both real and Internet lives were prepared by the researcher. These lists were studied individually first, and then group discussion took place to raise participants' awareness of the stress.

Session 6 focused on the development of self-control in cases of self-regulation

and adopted coping strategies in stressful situations. Case studies were used to instigate students to reflect on the chain of incidents, thought, emotion and behaviour caused by stress. A primary focus was given to cases where stress from real life transferred to online life. In Session 6, the students also explored alternatives to help them reconsider their thoughts and feelings in stressful situations and, therefore, to focus on problem solving coping strategies in terms of developing self-regulation.

Session 7 was devoted to an exploration of the value of having a balanced life. The students considered their daily Internet use habits and evaluated the degree of balance between online and offline experiences. Time management skills were also practiced. The participants were asked an analysis of the result of a survey regarding "Internet use habits" in the middle school. This survey was applied in the previous teaching year by the researcher. The participants were given graphs of this research for interpretation purposes. Firstly, they indicated the most time spent in Internet usage in the middle school. Secondly, they filled in a graph individually on the computer related to the time they allocate to sport or hobbies, relationships with friends and family, school tasks, and Internet in daily life. After completing the graph, they shared them with a peer in the classroom, and questioned their time management.

Session 8 focused on developing empathy in daily life and on the Internet. The aim was to raise awareness of others' feelings and thoughts, especially in conflictual situations in real and online life. The participants mimicked facial expressions for different emotions, and some of them took part in effective listening games, voluntarily. In addition, a group discussion was used to increase awareness of empathy differences between real and Internet life. Through scenarios with role-

playing and “if you were...” questions, the participants explored others’ feelings and thoughts, as well as alternatives, to resolve potential conflicts.

Session 9 was devoted to values in digital life. The students explored human values in an online context and potential moral dilemmas in online communication. The meaning of respect and value in real and Internet life was inquired into as part of group work. Problem solving strategies for moral dilemmas were also explored with different scenarios regarding values in online life. The participants, with two other students, discussed the scenarios in terms of adopting different perspectives and finding solutions.

Session 10 was the closing session where the students played a treasure hunt game and shared feelings and opinions on their experiences during the 10 sessions. The treasure hunt activity was based on components of the MiNDLifeResP, and facilitated a summary of the process.

Table 1
A summary of the main components of the MiNDLifeRes Program*

Session Number	**Agenda of Each Session**	**Components Addressed in Each Session**
1	What is meant by real life and digital life. Structuring the meetings	Mindfulness
2	My digital identity	Mindfulness Adaptive coping Responsible Internet use
3	Digital life with feelings and opinions	Mindfulness Adaptive coping Responsible Internet use
4	Are the feelings on the Internet contagious?	Mindfulness Adaptive coping Responsible Internet use
5	Stress in life	Mindfulness
6	Self-control: in cases of self-regulation	Mindfulness Adaptive coping
7	Balanced life	Mindfulness Responsible Internet use
8	Empathy on the Internet	Mindfulness Adaptive coping Responsible Internet use
9	Values in digital life	Mindfulness Adaptive coping
10	Concluding the program: Sharing opinions and feelings	Mindfulness

* The need satisfaction component is the leadership style in which 10 sessions of the Program were conducted. This style is also integrated and embedded into all process for fulfilling the participants' need for autonomy, need for competence, and need for relatedness.

CHAPTER 3: METHOD

Introduction

This chapter discusses the research design, the context for the study, and both quantitative and qualitative data collection and analysis. Two studies were carried out in the framework of the present research. The aim of the first study (Study 1) was to examine mindfulness during online activities and coping in stressful situations as the mediators in the relationship of need satisfaction to PIU. Together with this, the Study 1 was designed with the intention of testing the reliability of some widely-used measures for the assessment of need satisfaction, coping, mindfulness, online persona, and PIU with middle school Turkish students, so as to be able to use these instruments in Study 2.

The aim of the second study (Study 2) was, firstly, to design a small-scale prevention program based on the satisfaction of students' psychological needs, the exploration of active coping strategies, mindfulness in online engagement, and awareness of the consequences in online behaviours. Secondly, it aimed to implement the designed Mindful and Need-supportive Digital Life Responsibility Program (MiNDLifeResP) with non-risk students in a middle school to test its effectiveness in preventing PIU. With these purposes, a cross–sectional design was adopted for Study 1 and a quasi-experimental design for Study 2, using both quantitative and qualitative data collection techniques.

In what follows, first of all the research design for each study is explained, and then the details of the research context and method (i.e., participants, procedure and

measurements) are presented. Lastly, the data collection and analytic procedures are presented, as well as ethical considerations.

Study 1

Research design

Cross-sectional design

In the cross-sectional design data from participants were collected at a specific point in time. Several research purposes can be met by this design such as: examining current attitudes, belief, opinions, or practices of individuals; comparing educational groups based on their attitudes, belief, opinions, or practices; measuring community needs of educational services; or, evaluating a program, or large-scale assessment of students or teachers in a national survey (Creswell, 2014).

In the current correlational study, a cross-sectional design was selected in order to investigate the relation of Turkish middle school students' need satisfaction to problematic Internet use through coping strategies and online mindfulness. This cross-sectional correlational study served also as a first step prior to a quasi-experimental study (Study 2) so as to test the reliability of the measures used in the pre-and post- test of the quasi-experiment with Turkish early adolescents.

Context

This study was conducted in a fee-paying middle school which belongs to a not-for-profit foundation and is located on the campus of a private not-for-profit university in Ankara, Turkey. The school was a PreK-12 school, with over 1000 students and 150 teachers. The middle school, in which the study took place, had 256 students from 5th to 8th grade; 110 female and 145 male. In addition there were 45 subject

teachers, some of whom were attached uniquely to the middle school and others, a smaller number, who also taught in the primary school. The middle school had also two counsellors, a principal and a vice-principal. The primary and middle schools were within the same group of buildings but are divided into separate blocks allowing for students to be apart, but for teachers to navigate between the one school or the other as appropriate.

The school has been going through change mandated by the Turkish Ministry of Education. Whereas formerly the school was divided between primary (Grades Pre-K to 8) and High School (Grades 9 to 12), a recent change in the law created three separate schools, each with 4 years between Grades 1 and 12, with Pre-K and K attached to primary grades 1 to 4. This meant a change in the school curriculum, and in particular to classroom guidance hours in the middle school, which were replaced by other subjects.

The school's parents are generally drawn from a high socio-economic status group in Ankara. Approximately 25% of the parents are employees of the private not-for-profit University in the campus on which the school is located, or are employees of the university's companies.

Participants

For this study, a total of 165 students from the private middle school located in the campus of the not-for-profit private university in Ankara participated voluntarily. Of these, 81 (49%) were female and 84 (51%) were male, studying in the 6^{th} (N = 68), 7^{th} (N = 48), and 8^{th} (N = 49) grades. The mean age of the students was M_{age} = 12.88, SD = .83.

According to what students reported, 91% of them had their own cell phone, 87% of

them had a laptop or personal computer, 81% had a tablet, 47% had a game console. All these students' devices had an Internet connection. Among the students, 70 % of them did not have any limitation set by parents or themselves for using the Internet. Most of the students have access to the Internet easily when they wished.

According to students' reported data, 128 students (77 % of 165 students) used the Internet daily, viz. 52 students (41%) were using it daily for one hour; 42 students (33%) were using it daily for three hours; 15 students (12%) were using it daily for five hours; 6 students (5%) were using it daily for seven hours; 6 students (5%) were using it daily for nine hours; 5 students (4%) were using it daily for eleven hours; and 2 students (2%) were using it daily for thirteen hours.

Instrumentation

Problematic Internet use

The Turkish Problematic Internet Use Scale for Adolescents (PIU-A) (Ceyhan & Ceyhan, 2009) was adapted to assess participants' level of *problematic Internet use* in the current study. The scale includes 27 items, divided into three subscales; responses are indicated on a 5-point Likert type scale (1 = never suitable for me, 5 = totally suitable for me). In order to use this scale to assess participants' PIU for current study, ten 6th grade students were selected randomly to be interviewed individually about their understanding of the scale's items. The students were asked the following questions in Turkish: "What do you understand from this item? What is your first thought when you read this item? Is this item clear, and understandable? If it is not clear for you, what is your suggestion for understanding it better? How will you rephrase this item so us to be understandable for your classmates?". The feedback received from the students revealed the necessity of further explanations

next to each item so as to ensure all participants achieved a common understanding. For this reason, the students' examples reported during the interview were included next to each item of the scale. For example, the original item "Rather than spend money for social activities, I prefer to spend it on Internet access" for the *negative consequences* subscale was transformed to the following enhanced item "Rather than spend money for social activities in real life, I prefer to spend it to speed up the Internet, or to buy a character in online game, or to increase the level of the game". The original item "I avoid using the Internet if I do not need it" for the *excessive use* subscale was transformed into the following enhanced item "I use the Internet just for specific purposes like doing homework or research, or reading some news". Accordingly, the original item "I gained respect in the Internet, but cannot get it in my real life" for the *social comfort* subscale was transformed into the following enhanced item "While people in my life undervalue me, people on the net show me more respect, and esteem me very highly".

The 27 items of the PIU-A are divided into three sub-scales: *negative consequences* of Internet use (14 items; e.g. "I am neglecting my daily job (like doing homework, exercise or taking a shower) to spend more time on the Internet."; α = .87); *excessive use* (6 items; e.g. "When I use the Internet till the late hours, I sleep less than ever."; α = .69); and *social benefit / social comfort* (7 items; e.g. "People in my real life do not respect me as much as people on the net."; α = .77) (see Appendix B: Problemli internet kullanımı ölçeği-Ergen formu, p. 193). The overall internal consistency of the Problematic Internet Use Scale for Adolescents expressed by the Cronbach alpha was α = .90.

Mindfulness

It was deemed important to assess students' *mindfulness* during Internet use as well as their *responsible use of online persona* (i.e. online identity). For the *mindfulness* subscale, 6 items out of 15 from Mindful Attention Awareness Scale (MAAS) (Brown et al., 2003) were adapted. The selected 6 items were discussed in interview sessions with five 6th grade students randomly selected. In these interviews, the students were asked the following questions: "What do you understand from this item? What is your first though when you read this item? Is this item clear, and understandable? If it is not clear for you, what is your suggestion for understanding it better? How will you rephrase this item so as to be understandable for your classmates?" The feedback received from the students revealed the necessity of further explanations next to each item so as to ensure that all participants achieved a common understanding. For this reason, the students' examples reported during the interview were included next to each item of the scale. The original item "When I use the Internet, I could be experiencing some emotion and not be conscious of it until sometime later" was transformed into the following enhanced item "When I use the Internet, I did not notice having feelings such as anger, greed, fear, or excitement, etc. in a certain moment". All responses were indicated on a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Principal component analysis extracted one factor when one item was excluded (Lambda = 2.28 and explained variance 45.61%). Based on this result a composite score was computed for *mindfulness* by aggregating the 5 items (α = .69).

For the responsible use of *online persona*, 20 items were initially constructed by the researcher, based on her experience with adolescents as a school counsellor and the

literature. The 20 statements were discussed with the thesis supervisor in terms of their relation to the aims of the study. Through this process 7 statements were selected and were e-mailed to a panel of experts including one professor of child and adolescent psychiatry, seven school counsellors, one psychologist and principal at a private primary school, and one vice principal at a middle school. The experts gave feedback on the items based on specific evaluation questions. According to the feedback of the experts the 7 items assessing responsible use of *online persona* were adapted and finalized to assess how adolescents represent themselves in the online world. An example item was "There is no harm to give a nickname to someone in an Internet application like the WhatsApp groups". Responses were given on a 5-point Likert-type scale. High scores on the scale indicate that adolescents' Internet use is becoming irresponsible and may affect their lives negatively. The internal consistency coefficient for *online persona* was α = .65 (see Appendix C: İnternetin sorumlu kullanımı ölçeği, p. 195).

Need satisfaction

The Basic Need Satisfaction Scale (Deci & Ryan, 2000), adapted in Turkish by Bacanlı and Cihangir-Çankaya (2003), was used to assess participants' basic need satisfaction in their real lives. The scale consisted of 21 items: 7 items for satisfaction *of autonomy* (e.g. "I generally feel free to express my ideas and opinions."); 6 items of *competence* (e.g. "People I know tell me I am good at what I do."); and, 8 items of *relatedness* (e.g. "I really like the people I interact with."). Responses were indicated on a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). The overall internal consistency of this scale was α = .81, while the internal consistency of the three subscales was α = .60 for *need for autonomy*, α = .60 for *need for competence*,

and α = .73 for *need for relatedness* (see Appendix D: Temel ihtiyaçlar ölçeği, p.196).

Coping strategies

The Coping Strategies Scale developed by Amirkhan (1990) and adapted into Turkish by Aysan (1994) was used to assess active and avoidant coping. The scale included 3 subscales with 11 items for *problem solving* (e.g. "Tried to solve the problem."), 11 items for *seeking support* (e.g. "Went to a friend for advice on how to change the situation."), and 11 items for *avoidance* (e.g. "Avoided being with people in general."). All responses were indicated on a 3-point scale (1= never, 3= very). The overall internal consistency of the Coping Strategies Scale expressed by the Cronbach alpha was α = .88, while it was α = .84 for the *problem solving* subscale, α = .86 for the *seeking support* subscale, and α = .71 for the *avoidance* subscale for the current study (see Appendix E: Başa çıkma stratejileri ölçeği, p.198).

Method of data collection

The principal and vice principal of the participating school were contacted and informed about the purpose of the study. After getting their approval, the parents also consented by signing specific forms from the counselling and guidance department related to all the surveys that would be carried out throughout the academic year.

The surveys were administrated during a class session by the researcher after getting the class instructor's permission. The students were, firstly, informed about the purpose of the study and that their participation was voluntary and anonymous. Then, they were asked to complete the survey in a paper-and-pencil version. All students accepted to participate in the study and were willing to complete the survey.

Method of data analysis

The quantitative data were analysed in a preliminary stage using descriptive statistics, and bivariate correlations of the measured variables. MANOVA was also used to test for gender differences. In the main stage, a path analysis was performed to investigate the mediation of coping and mindfulness in the relation of need satisfaction to PIU.

Study 2

Research design

Quasi-experimental research design

Experimental design is based on a test of a practice or procedure to determine whether there is a possible cause and effect relationship between independent and dependent variables in a research study (Creswell, 2014), and if so, what the strength of that relationship is and whether it is significant. One type of experimental design is a quasi-experimental design with pre-test and post-test assessment. The quasi-experimental design differs from a fully experimental design in that it is comprised of non- random assignment of participants to experimental groups because the researcher cannot artificially create groups for the experiment (Creswell, 2014).

This study used a pre-test, post-test and follow-up (within one month) quasi-experimental design, as illustrated in Table 2. This design was chosen for several reasons. Firstly, random assignment of students to the groups would have disrupted school conditions and classroom learning. It is impractical to divide the students outside of their regular activities simply for a research program. Intact classes of students in a quasi-experimental design are often a feature of educational research (Wiersma & Jurs, 2005). Secondly, ethical considerations did not allow for fully

experimental selection as this would have disrupted class distribution and break up friendship bonds, and other relationships within the classroom community, which may have been detrimental to students' well-being. Thirdly, although creating potential issues related to the ability to generalise from the findings, keeping a quasi-experimental format reflected real implementation conditions and potentially strengthened the practicality of the experiment for application in other contexts.

Table 2
Quasi-experimental pre-test, post-test and follow-up design

Select Control Group	Pre-test	No Experiment	Post-test	Follow-up
Select Experimental Group	Pre-test	Experiment	Post-test	Follow-up

The researcher assigned intact groups, that is which were already in existence, to form the experimental and control groups. Both groups were administered pre-test, post-test and follow-up assessment but, as is inherent in this design, the experimental activities were conducted with the experimental group only during a computer class, while the control group participated in a regular computer class. The activities consisted of 10 interventions: each week the experimental group received an 80 minute session given by the researcher on aspects of Internet use amongst young people, as well as on coping strategies and responsible Internet use, while the researcher was creating a need supportive environment. Short survey diaries were used at the end of each session to explore the participants' need satisfaction and their perception regarding the researcher's need supportive style.

The pre-test, post-test and follow-up assessment, eliciting quantitative and qualitative data and the dependent and independent variables of the study are presented in the table 3 below.

Table 3

Design of Study 2

	Variables	Experimental Group	Control Group
	Dependent Variables:		
Pre-test assessment	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs
Intervention	**Independent variable**: MiNDLifeResP **Dependent variable:** 1.Student's Diary 2.Researcher's Diary	MiNDLifeResP 1.Student's Diary 2.Researcher's Diary	No intervention
Post-test assessment	**Dependent Variables:** 1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU 6. Interviews with Students: Student's Experience and Benefits of the Implemented Program	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU 6. Interviews with Students: Student's Experience and Benefits of the Implemented Program	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs
Follow-up assessment	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Frequencies of daily Internet use, and limitation of Internet use	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Frequencies of daily Internet use, and limitation of Internet use	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Frequencies of daily Internet use, and limitation of Internet use

Notes. PIU= Problematic Internet Use; RIU= Responsible Internet Use.

Context

Study 2 was conducted in the same context as Study 1.

Participants

The research encompassed 40 students selected from 6th grade which was comprised of four sections with a total number of 80 students. In the literature PIU peaks at around 12 to 14 years of age, which is generally the age of students who are in 7th grade in middle school (Kowalski & Limber, 2007; Ayas & Horzum, 2013). However, as the program was preventive the researcher decided to focus on 6th grade students as, by the end of the intervention, they would be entering 7th grade. It was hoped that, by participating such a program at a slightly earlier age, these students would benefit from the program, if the research were shown to be significantly helpful in its aims. One section of the 6th grade classes was selected as an experimental group, which included 20 students, and a second section operated as the control group, also with 20 students.

As there were four sections in the 6th grade, the two participating groups in the study were chosen randomly by putting the class numbers (A, B, C, D) in a hat and asking a colleague to draw out two of the four by lottery. Sections A and B were the groups chosen using this system. The first out of the hat was designated as the experimental group; the second became the control group. There were 11 male and 9 females in the experimental group (one student quit the class during the implementation; therefore, did not participate in the post-test), and 12 males and 8 females in the control group.

Assigning students to a class is carried out yearly by the vice-principal based on some middle school criteria. The criteria include the student's GPA, results on a

socio-metric test related to student's social preference, special needs (e.g. ADHD, learning disability, or pervasive developmental disorder, etc.), and teacher observations and opinions. These criteria based on student characteristics were used at the beginning of the academic year to divide the students into sections so that they had as similar a composition across the sections as possible.

Participants' Internet use features

In this section the number of devices with Internet connection owned by students, the number of accounts for different applications held, and the ranking in their use of applications, as well as the purposes for Internet use as determined by the pre-test, are presented.

The number of participants' devices with Internet connection

In the pre-test, participants were asked to report the devices with Internet connection they had for their own use. As depicted in Table 4, 58% of the participants in the experimental group were cell phone owners, while over 90% of the participants in the control group possessed such a device connected to the Internet. Regarding other devices, the proportions between the two groups were as follows: 84% and 90% of the experimental and the control group respectively possessed laptops, 90% and 95% had tablets, while 79% and 37% had game consoles connected to the Internet.

Table 4
Frequency of participants' devices with Internet connection in pre-test

	Experiment n=19		Control n=19	
	f	%	*f*	%
Cellphone	11	58	17	90
Laptop	16	84	17	90
Tablet	17	90	18	95
Game console	15	79	7	37

Number of participants' accounts and ranking of application use

Firstly, in the pre-test participants were asked whether they had accounts with any of nineteen listed applications, and then they were asked to rank the five most preferred of those applications (see Table 5). E-mail, Instagram, WhatsApp, Facebook, and YouTube were the five most preferred applications for both the experiment and control groups, but in a different order. The experimental group preferred to use the above applications in the following order: e-mail (58%), Instagram (58%), YouTube (58%), WhatsApp (47%), and Facebook (42%), while the control group preferred to use them in a different order: Instagram (84%), Facebook (79%), WhatsApp (74%), e-mail (53%), and YouTube (47%).

Table 5
Frequency of participant held accounts and use ranking in the pre-test

Application	Experiment n=19				Control n=19			
	f	%	*The 5 most used* *f*	*The 5 most used* %	*f*	%	*The 5 most used* *f*	*The 5 most used* %
e-mail	17	90	11	58	19	100	10	53
Instagram	14	74	11	58	16	84	16	84
WhatsApp	13	68	9	47	16	84	14	74
Facebook	10	53	8	42	17	89	15	79
YouTube	12	63	11	58	14	74	9	47
Skype	12	63	4	21	11	58	4	21
Vine	11	58	5	26	7	37	3	16
Google+	7	37	2	11	10	53	4	21
Tango	8	42	1	5	5	26	1	5
Snapchat	5	26	2	11	9	47	6	32
Twitter	4	21	2	11	8	42	3	16
Blog	9	47	1	5	1	5	-	-
Viber	3	16	2	11	6	32	2	11
Line	3	16	3	16	5	26	3	16
Pinterest	5	26	3	16	3	16	2	11
Tumblr	3	16	-	-	2	11	-	-
Ask.Fm	2	11	-	-	2	11	-	-
Forum	2	11	1	5	2	11	-	-
Web site	1	5	-	-	-	-	-	-

Students' purposes for Internet use

Participants were asked to report the five most important purposes for using the Internet in the pre-test. According to Table 6, participants in both experimental and control group reported *school jobs*, *follow social networks*, *play a game*, *watch a movie*, and *listen to music* as the five most important purposes for Internet use.

Table 6
Frequency of students' purposes of Internet use in the pre-test

Purpose	Experiment n= 19		Control n= 19	
	f	%	*f*	%
Watch a movie	12	63	13	68
Social networks	12	63	15	79
School jobs	13	68	13	68
Play a game	13	68	14	68
Written chat	8	42	8	42
Listen to music	11	58	13	58
e-mail	3	16	4	16
Voice chat	2	11	2	11
Video chat	8	42	9	47
Blogger	-	-	-	-
Forum site	1	5	-	-
Meet new people	-	-	-	-
Search	3	16	-	-
Share videos	3	16	4	21

Instrumentation

Independent variables

The Mindful and Need-supportive Digital Life Responsibility Program (MiNDLifeResP). As explained earlier, the program was developed by the researcher based on the relevant literature. The researcher's main objective was to design a small-scale prevention program for non-risk middle school students based on the satisfaction of students' psychological needs, exploration of active coping strategies, mindfulness in online engagement, and awareness of consequences in online behaviours. In order to design the MiNDLifeResP, the researcher followed the steps described below:

Step-1: A preliminary MiNDLifeResP was designed which included ten 80-minute sessions for 6th grade based on a literature review (see Chapter 2) and the researcher's experience.

Step-2: The preliminary program was e-mailed to experts to give feedback on the following issues: whether the objectives of each session were related to the suggested activities and title of the sessions, whether the suggested activities were appropriate for the available time of each session; and, whether the suggested home activities were interesting and related to the objectives. The team of experts consisted of a Turkish lecturer with a research interest in Internet use, a professor and chair of a Computer Technology & Information Systems department in a Turkish university, researchers from an Internet addiction preventive institution in Greece, a lecturer in Curriculum and Instruction from a Turkish University, six school counsellors from private primary and middle schools in Ankara, and one Turkish Language Coordinator at a private primary school.

Step-3: The researcher, in a pilot study, implemented the first four sessions of the Program to a group of 17 six-graders. During the implementation, the researcher was observed in terms of her need supportive style by her supervisor, the general coordinator of the school, a Turkish Language coordinator, and a psychologist. The observers gave feedback to the researcher, while the students reported their perceived need satisfaction through the Activity-feeling States Scale (see below). The researcher also kept a reflection-journal for the sessions. When the four pilot sessions were completed, four volunteer students were invited by the researcher to a group discussion to evaluate the pilot implementation. Along with implementation with six graders, two of the program sessions were also implemented with a group of sixteen 7th graders. Additionally, three sessions of the program were implemented in a private school in Ankara by a school counsellor. The school counsellor gave feedback to the researcher about her experience during implementation.

Step-4: As a result of all the above feedback the MiNDLifeResP was revised and improved. The final MiNDLifeResP consisted of 10 sessions with the following general objectives, as previously mentioned in Chapter 2, viz. to reduce PIU and increase awareness of responsible Internet use with the aim of developing active coping strategies and mindfulness amongst early adolescents within a need-supportive environment in a school setting. Activities with adaptive problem-solving strategies, self-regulation skills, and awareness of real life and online life were designed to develop responsible Internet use amongst early adolescents.

Baseline variables

A personal information form was given to students to get information on participants' background variables such as: gender, age, devices and applications used, as well as the purposes of Internet use (see Appendix A: İnternet kullanma alışkanlıkları ve demografik form, p. 191).

Dependent variables: Pre-test

Problematic Internet use. In order to assess PIU, the same instrument (Problematic Internet Use Scale for Adolescents) from Study 1 was used. For current survey Cronbach alpha was α = .88 for *negative consequences* of PIU; α = .76 for *excessive use*; and α = .76 *social comfort.*

Responsible Internet use. In order to assess RIU, the same instrument (Responsible Internet Use Scale) from Study 1 was used. For the current survey, internal consistency coefficients of the two factors of Responsible Internet Use were found to be α = .64 for *mindfulness* during Internet use, and α = .74 for *online persona*.

Need satisfaction. In order to assess need satisfaction, the same instrument (Basic Need Satisfaction Scale) from Study 1 was used. For the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .83.

Coping strategies. In order to assess coping strategies, the same instrument (Coping Strategies Scale) from Study 1 was used. For the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .88 for the *problem solving* sub-scale, α = .88 for the *seeking support* sub-scale, α = .77 for the *avoidance* sub-scale.

Parents' perceptions of their children's Internet use behaviours. In order to assess parents' perceptions of their children's Internet use behaviours, an inventory were adapted from the PIU and RIU Scales by the researcher. Nine out of the twenty seven items of the Problematic Internet Use Scale for Adolescents (e.g., "S/he forgets to eat at times because of the Internet."), and four out of the seven items of the online persona sub-scale of the Responsible Internet Use Scale (e.g., "S/he uses the words on the Internet with her/his friends, s/he does not use them easily in daily life.") were converted into parents' perception of their children's Internet use behaviours (see Appendix F: Parents' perceptions of their children's internet use behaviours, p. 199). All responses were indicated on a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). In addition, parents assessed their children's amount of daily Internet use and limitation in their Internet use. In the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .83 for PIU, and α =.93 for RIU for parents' perceptions of their children's Internet use.

Dependent Variables: During the intervention

Diaries across the MiNDLifeResP

After each meeting with students during the MiNDLifeResP, the researcher kept a quantitative diary and reported her need supportive style in a Likert-type scale. She also kept a reflective diary in which she reported the weak and strong point of each session as well as her feelings and thought during and after each session. The students also were also reflecting on their experience and reported their perceptions of the researcher's need supportive style and their need satisfaction in a Likert-type scale. Students' reports were kept as a quantitative diary. The diaries of the researcher and of the students are explained below.

The Researcher's diary across the MiNDLifeResP

Researcher's quantitative diary: Perceived need supportive style

In order to assess the researcher's need supportive style, the Learning Climate Questionnaire (LCQ) (Williams & Deci, 1996; as cited in Dincer, 2014) was slightly adapted to measure researcher's need supportive style. The researcher assessed her need supportive style (e.g. "creating opportunities for students to practice in their own way.") in a 5 point Likert type scale (see Appendix G: Researcher's quantitative diary, p. 202). Low mean scores on the scale indicate that the researcher's style was less need supportive while high mean scores indicate that the researcher perceived herself as more need supportive.

Researcher's reflective diary

In order to assess the intervention process, researcher kept a reflective diary in which she reported the facilitating and challenging components of the program

implementation as well as her feelings and thoughts during and after each session. Besides she took some notes regarding her observation of students' interactions. This all reflective thinking process served a broad sense of think regarding what happened each session, and learnt from this unique experience.

Student's diary across the MiNDLifeResP

After each meeting during the MiNDLifeResP, the students reflected on their experience and reported in a short survey their perceptions of researcher's need support, and their need satisfaction. Students' reports were kept as a type of diary in the classroom at the end of the implementation of each session.

Student's diary: Perceived need support. In order to assess students' perceptions about a need supportive classroom environment, the Learning Climate Questionnaire (LCQ) was selected (Williams & Deci, 1996; as cited in Dincer, 2014). This scale was translated and adapted into Turkish for university students by Dincer (2014) and included 14 items. The students assessed the session's need supportive climate in a 5 point Likert type scale (see Appendix H: Öğrenme ortamı ölçeği, p.203). Low mean scores on the scale indicate that students perceive their environment as creating more pressure. On the other hand, high mean scores indicate that students perceive their environment as being more need supportive. The Cronbach alpha of the scale for the 10 repeated measures ranged from α = .89 to α = .99.

Student's diary: Need satisfaction. In order to assess students' perception of need satisfaction, the Activity-feeling State (AFS) Scale was used (Reeve & Sickenius, 1994; translated and adapted into Turkish by Dincer, 2014). The original

scale measures psychological need satisfaction that results from solving SOMA puzzles. After the statement: "Solving the SOMA Puzzle makes me feel... *"* three items assess need for autonomy, three items assess need for competence, three items assess need for relatedness, and three items assess tension. In many studies the tension subscale has not been used as it contains filter items that are not scored. In the current study the nine items concerning the satisfaction of the three psychological needs were kept and the initial sentence adapted as follows: "Today's session made me feel ...". The Cronbach alpha of the scale in the 10 repeated measures ranged from α = .67 to α = .99 for competence; α = .53 to α = .98 for relatedness; α = .76 to α = .99 for autonomy (see Appendix I: Derste hissedilen durum ölçeği, p. 204).

Dependent variables: Post-test

After the experimental group intervention was completed, Problematic Internet Usage, Responsible Internet Use, Coping Strategies and Need Satisfaction scales were used again with both experimental and control group. In addition, the experimental group had semi-structured interviews to assess students' experience and perceived benefits of the MiNDLifeResP, and used a diary during the implementation.

Problematic Internet use. The same instrument (Problematic Internet Use Scale) from Study 1 and the pre-test were used for assessment of PIU. For the current survey Cronbach alpha was: α = .80 for the negative consequences of Internet use; α = .64 for excessive use; and α = .65 for social comfort.

Responsible Internet use. The same instrument (Responsible Internet Use Scale) from Study 1 and the pre-test were used for assessment of RIU. For the current survey, internal consistency coefficients of the two factors of Responsible

Internet Use were found to be α = .52 for *mindfulness* during Internet use, and α = .57 for *online persona*.

Need satisfaction. The same instrument (Basic Need Satisfaction Scale) from Study 1 and the pre-test were used for assessment of need satisfaction. For the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .85.

Coping strategies. The same instrument (Coping Strategies Scale) from Study 1 and the pre-test were used for assessment of coping strategies. For the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .93 for the problem solving sub-scale, α = .91 for the seeking support sub-scale, α = .80 for the avoidance sub-scale.

Parents' perceptions of their children's Internet use behaviours. The same instrument (Parents' perceptions of their children's internet use behaviours) of the pre-test was used in Study 2. For the current survey, the internal consistency of the scale expressed by Cronbach alpha was α = .87 for PIU, and α = .60 for RIU of parents' perception to their children's Internet use.

Interviews with students: Students' experiences and benefits of the implemented program. Semi-structured interviews were used to get an in-depth understanding of students' experience of the Program and its benefits. The interviews were carried out using the following interview questions:

1. Questions about the connection of the Program with students' daily life
    a. Did you find anything meaningful with regard to your daily life in the Program that you have participated in for 10 weeks? If so, could you explain?

2. Questions about students' need satisfaction during the Program
    a. Do you think you were able to openly express your feelings and opinions during the program? Were you able to make your own choices for decisions during the program? Could you explain how?
    b. Did you feel part of the class group? Could you explain?
    c. Were the activities conducted suitable for your level of knowledge and abilities? Were the activities which were implemented easy or hard for you?
3. Questions about the strong aspects of the Program
    a. What was the thing that impressed you most in the program?
4. Questions about students' suggestions for improvements
    a. What would you like to change in the program?

Dependent variables: Follow-up

One month after the post-test assessment, Problematic Internet Use for Adolescents, Responsible Internet Use, Coping Strategies and Need Satisfaction scales were administrated to both experimental and control groups. In addition, the frequency of daily Internet use, and limitation of Internet use were assessed for the experimental group.

Problematic Internet use. The same instrument (Problematic Internet Use Scale) from Study 1 was used in terms of assessing of PIU. For the current survey Cronbach alpha was α = .80 for *negative consequences* of Internet use; α = .68 for *excessive use*; and α = .63 for *social comfort.*

Responsible Internet use. The same instrument (Responsible Internet Use Scale) of the Study 1 was used in terms of assessing RIU. For the current survey,

internal consistency coefficients of the two factors of Responsible Internet Use were found to be α = .89 for *mindfulness* during Internet use, and α = .36 for *online persona*.

Need satisfaction. The same instrument (Basic Need Satisfaction Scale) of the Study 1 was used in terms of assessing of need satisfaction. For the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .89.

Coping strategies. The same instrument (Coping Strategies Scale) of the Study 1 was used in terms of assessing coping strategies. For the current survey, internal consistency of the scale expressed by Cronbach alpha was α = .93 for the *problem solving* sub-scale, α = .88 for the *seeking support* sub-scale, α = .83 for the *avoidance* sub-scale.

Method of data collection

The researcher obtained official permission from the Turkish National Education Ministry for implementation of the Mindful and Need-supportive Digital Life Responsibility Program in the school, which is an ethical requirement under the law. At the same time, the principal and vice principal of the participating school were contacted and informed of the purpose of the study. After getting permission, the researcher sent a written consent form to parents informing them about the objectives of the program and asking for their consent for their children's participation in the intervention (see Appendix L: Parent consent form, p. 216). Moreover, the parents also consented by signing specific forms from the counselling and guidance department of the school related to all the surveys and interviews that would be carried out throughout the academic year.

The implementation of the surveys was completed in a process similar to Study 1; i.e. they were administered during a class session by the researcher after getting the class instructor's permission. The students were informed about the purpose of the study and that their participation was voluntary and anonymous. All students accepted to participate in the study and were willing to complete the survey, and attend the implementation of the Program. Experimental and control groups took inventories during a class session as a pre-test on September 8 and 9, 2015, respectively, i.e. in the third week of the academic year. The implementation of the intervention with the experimental group was started one week later by the researcher. During implementation of the intervention experimental group students completed their diaries at the end of the each session in the classroom. After ten weeks, when intervention was completed with the experimental group, post-test inventories were administrated during a class session by the researcher for both groups on December 28 and 29, 2015. Finally, a follow-up assessment was completed for both groups in a class session by the researcher on January 28 and 29, 2016.

An inventory of parents; perceptions of their children's Internet use was sent as a hard copy in a closed envelope to parents of the experimental group before the beginning of implementation of the intervention on September 8, 2015. The parents' data were collected within one week. After the intervention was carried out with experimental group, the above mentioned inventory was sent to the children's parents in the same way on December 28, 2015. Similarly, the data were gathered within a week.

In addition, individual interviews with the experimental group were carried out by a

school counsellor, after the post-test implementation was completed, over two days, January 6 and 7, 2016. The researcher explained the interview process, the purpose of the interview, why it was required and by whom and how it would be conducted to the students. It was stated that receiving the opinions of the students who experienced the Mindful and Need-supportive Digital Life Responsibility Program would contribute to the development of the program. They were informed that interviews needed to be conducted by a different psychological counsellor in the school, not the researcher, to maintain an objective assessment, and that each interview would take approximately 15-20 minutes. In addition to the above, it was also specified that interviews would be recorded on a voice recorder, and the names of students would not appear anywhere in written form or orally (see Appendix K: MiNDLifeResP interview protocol, p.215).

Method of data analyses

Quantitative data analyses. The quantitative data were analysed in a preliminary stage using descriptive statistics, and bivariate correlations for the pre-test, post-test and follow-up assessed variables. MANOVA was also used to test for gender differences.

In the main analyses, a two-way repeated measures ANOVA was used in order to compare the means of the measured dependent variables across time (pre-test, post-test and follow-up) and groups (experimental and control group). Also, a cross tabulation analysis was used to compare the categorical variable of time spent on Internet between classes and across time.

Concerning students' diaries, a one-way repeated measure ANOVA was used to compare the means of students' perceived need support and need satisfaction during

the 10 weeks of the implementation in the experimental group. Furthermore, a paired-sample t-test was used to compare parents' reports about their children's time spent on Internet between the pre-test and post-test.

Qualitative data analysis. The audio-recorded interviews with the students of the experimental group were first transcribed and content analysis was performed. Based on the interview guide, students' statements were classified into four categories. After defining the basic categories for analysis, the soft texts were read several times and recurring concepts and themes from students' interviews were identified.

CHAPTER 4: RESULTS

Introduction

The primary purpose of the present research is to investigate the relationship of Turkish early adolescents' need satisfaction, coping, mindfulness and awareness of consequences of online behaviours to PIU, and to test the effectiveness of a small scale preventive program on Turkish adolescents' PIU. For this purpose, two studies were carried out and their results are presented in this chapter.

Study 1

As mentioned in Chapter-1, need satisfaction in real life is related to more harmonious engagement in Internet applications (Przybylski et al., 2010). In a small number of studies it has been found that offline need satisfaction is negatively related to problematic Internet use through specific psychological mechanisms. Specifically, distress (Wong et al., 2015) and motives such as escapism (Masur et al., 2014) have been found to mediate the relation of need satisfaction to PIU. Both distress and escapism are reactions to stressful or undesired situations and therefore related to coping. The study aimed to investigate early adolescents' coping strategies in adverse situations and their mindfulness in online engagement as the mediating mechanisms that link need satisfaction negatively with problematic Internet use. For this purpose, four hypotheses were formed and the analyses that were used to test them are presented in below.

Based on Ntoumanis et al.'s integrated model (2009), it was hypothesised that adolescent need satisfaction in real life would be positively correlated with active coping and negatively correlated with avoidant coping (Hypothesis 1). It was

assumed also that active coping would be positively and avoidant coping negatively related to mindfulness during engagement in Internet activities (Hypothesis 2) and, through Hypothesis 2, to PIU (Hypothesis 3). However, as avoidant coping and escapism have been widely related to high levels of PIU (Panova & Lleras, 2016), avoidant coping could also be directly and positively related to PIU. Finally, it was hypothesized that need satisfaction in real life would be negatively related to PIU via avoidant coping and low mindfulness in online activities (Hypothesis 4).

Preliminary analysis

Descriptive statistics and bivariate correlations are presented in Table 7. With respect to psychological needs, there was a significant and positive relationship between need satisfaction and seeking support, and problem solving as coping strategies, and mindfulness during Internet use, but a negative relationship with social comfort and negative consequences of PIU. In addition, the coping strategies of seeking support and problem solving along with avoidant coping strategy were significantly and positively correlated with each other. As well, avoidant coping strategy was significantly and positively correlated with excessive use, social comfort, negative consequences as PIU, while negatively correlated with mindfulness during Internet use. Furthermore, mindfulness during Internet use was significantly and negatively correlated with excessive use, social comfort, negative consequences as PIU. Regarding excessive use of PIU, it was found that there was a significant and positive correlation with social comfort and negative consequences of PIU. Moreover, social comfort and negative consequences of PIU were significantly and positively correlated with each other.

To determine whether gender could be considered as a predictor of the dependent

variables, a multivariate analysis of variance (MANOVA) was conducted. The results showed no significant gender differences (Wilk's $\Lambda = .938$, F [8, 156] = 1.29, $p = .25$, multivariate $\eta^2 = .06$).

Table 7
Descriptive and bivariate correlations of the measured variables in Study 1

Variables	1	2	3	4	5	6	7	8
Psychological needs								
1. Need satisfaction		.29**	.27**	-.15	.16*	-.08	-.28**	-.18*
Coping								
2. Seeking support	.29**		.56**	.19*	-.07	.06	-.12	.02
3. Problem solving	.27**	.56**		.32**	.02	-.01	.04	-.06
4. Avoidant coping	-.15	.19*	.32**		-.33**	.26**	.37**	.37**
During Internet use								
5. Mindfulness	.16*	-07	.02	-.33**		-.48**	-.43**	-.59**
Problematic Internet use								
6. Excessive use	-.08	.06	-.01	.26**	-.48**		.40**	.72**
7. Social comfort	-.28**	-.12	.03	.37**	-.43**	.40**		.48**
8. Negative consequences	-.18*	.01	-.06	.37**	-.59**	.72**	.48**	
MS	3.80	2.21	2.34	1.97	4.03	3.17	2.02	2.03
SD	0.59	0.52	0.45	0.39	0.84	0.84	0.87	0.75

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

Main analysis

A path analysis was performed using the EQS 6.1 structural equation modelling statistical software package (Bentler, 1995) to investigate the mediation of coping and mindfulness in the relation of need satisfaction to PIU. Need satisfaction, avoidance coping and mindfulness were represented by the mean score of the measured variable, whereas active coping was defined by the mean of *problem solving* and *seeking support* as these two active coping strategies were strongly and

positively correlated (r = .56). PIU was defined by the mean of *excessive use*, *social comfort* and *negative consequences* as these three subscales of PIU were strongly and positively correlated (r = .40 to .72). It was important to use the mean of those subscales that were strongly and positively correlated so as to construct a simple model where the important relationships would be highlighted.

Inspection of Figure 1 shows that most of the hypothesized paths were significant and fit indices were acceptable: S-B÷2 (21, N = 165) = 39.27, p < .01, CFI=.949, SRMR = .067, RMSEA = .073 (90%-CI: .036 – .107). Specifically, after controlling for gender differences not shown in Figure 1, need satisfaction was positively related to active coping and negatively related to avoidant coping, confirming Hypothesis 1. In the sequel avoidant coping was negatively related to mindfulness during Internet use, partially confirming Hypothesis 2 as active coping was not related to mindfulness. Avoidant coping was also directly and positively related to PIU, while mindfulness was negatively related to PIU. A test of indirect effects showed that mindfulness during Internet use partially mediated the relation between avoidant coping and PIU ($\hat{a}$ = .20, z = 3.78, p < .01; Hypothesis 3) suggesting that low avoidant coping was associated with low PIU when mindfulness during Internet use was high.

Finally, concordant with Hypothesis 4, a test of indirect effects showed that need satisfaction was positively associated with mindfulness through avoidant coping (α = .05, z = 2.01, p < .05), suggesting that the more students satisfied their needs, the more likely they were to report mindfulness during Internet use through low avoidant coping. A similar test of indirect effects further showed that need satisfaction was negatively related to PIU (α = .07, z = -2.01, p < .05) by means of high avoidant

coping and low mindfulness during Internet use.

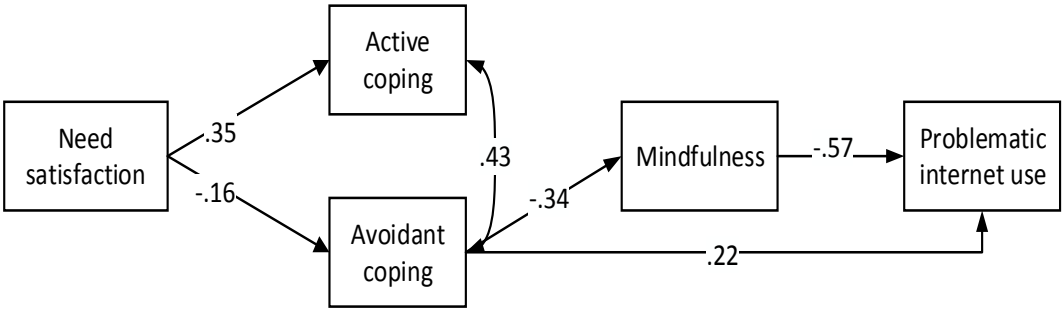

Figure 1. The tested model controlling for gender differences (not shown for sake of clarity).

In conclusion, Study 1 expanded understanding of the psychological mechanisms related to PIU in early adolescence. Specifically, the findings suggest that early adolescents' avoidant coping strategies and low online mindfulness mediate the negative relation between need satisfaction in real life and PIU.

Study 2

Study 1 showed that need satisfaction in real life is negatively related to PIU through high avoidant coping and low mindfulness during Internet use. It seems that coping and mindfulness serve as psychological mechanisms that transform unmet psychological needs to PIU. Extrapolating this result to the prevention of PIU to early adolescents, it is hypothesized that a school based program that will satisfy students psychological needs and promote their active coping and mindfulness will be effective in keeping PIU at low levels.

The purpose of Study 2 was to investigate to what extend the Mindful and Need-supportive Digital Life Responsibility Program was indeed a need supportive program and therefore to what extent it promoted active coping, mindfulness and

responsible Internet use as well as keeping PIU at low levels in an experimental group compared to a control group of non-risk early adolescents. The quasi-experimental design of Study 2 is represented in Table 8.

Table 8
Design of Study 2

	Variables	Experimental Group	Control Group
	Dependent Variables:		
Pre-test assessment	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs
Intervention	**Independent variable**: MiNDLifeResP **Dependent variable:** 1. Student's Diary 2. Researcher's Diary	MiNDLifeResP 1. Student's Diary 2. Researcher's Diary	No intervention
	Dependent Variables:		
Post-test assessment	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU 6. Interviews with Students: Student's Experience and Benefits of the Implemented Program	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Parents' Perceptions of PIU & RIU 6. Interviews with Students: Student's Experience and Benefits of the Implemented Program	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs
Follow-up assessment	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Frequencies of daily Internet use, and limitation of Internet use	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Frequencies of daily Internet use, and limitation of Internet use	1. PIU 2. RIU 3. Coping Strategies 4. Psychological Needs 5. Frequencies of daily Internet use, and limitation of Internet use

Notes. PIU= Problematic Internet Use; RIU= Responsible Internet Use; MiNDLifeResP= Intervention Program.

In this quasi-experimental study, six hypotheses were formed and tested in the "Main analyses" below. Specifically, the analyses that were performed to test each hypothesis are presented in Table 9.

Table 9
The hypotheses and corresponding analysis of Study 2

Hypotheses	Analyses
1. In the pre-test, experimental and control group will not differ regarding students need satisfaction in real life, coping, RIU and PIU. 2. In the post-test, experimental group will have higher need satisfaction in real life, active coping and RIU as well as lower avoidant coping and PIU compared to control group.	A two-way repeated measures ANOVA with the class in the between subject factors in order to compare the means of the measured dependent variables across time (pre-test and post-test) and groups (experimental and control group). A paired-sample t-test to compare parents' report their children's PIU and RIU across time.
3. In the pre-test, experimental and control group will not differ in time spent on Internet. 4. In the post-test, experimental group spent less time on Internet compared to control group.	A cross tabulation analysis to compare the categorical variable of time spent on Internet between classes and across time. A paired-sample t-test to compare parents' report about their children's time spent on Internet across time.
5. During the implementation of the Need-supportive and Mindful Digital Life Responsibility Program, the experimental group will be improving from session to session regarding the perceived need support and need satisfaction.	A one-way repeated measures ANOVA to compare the means of the measured dependent variables (student's diary about perceived need support and need satisfaction) during the 10 weeks of the implementation in the experimental group. A content analysis of researcher's diary.
6. In the post-test, students in the experimental group will be able to identify: (a) aspects of the Mindful and Need-supportive Digital Life Responsibility Program that were meaningful for their daily life, (b) need-supportive experiences during the Program, (c) positive or negative aspects of the Program and (d) aspects that can be further improved in the future.	A content analysis of recorded interviews

Preliminary analyses

In this section, firstly, means, standard deviations and internal consistencies of the PIU, RIU, coping and need satisfaction at pre-test, post-test and follow-up assessments are presented as well as the frequencies of daily Internet use and limits of Internet use. Secondly, the bivariate correalations are presented among gender, PIU, RIU, coping and need satisfaction at pre-test, post-test and follow-up assessments. Finally, the results of MANOVA are presented for gender differences in the measured variables of the three assessments.

Means, standard deviations, internal consistencies and correlations

Means, standard deviations and internal consistencies of the measures are presented in Table 10. Internal consistencies represented by Cronbach's alpha were acceptable for all the measures except of the online persona at post-test and follow-up assessment (α = .57 and α = .36, respectively). Also, internal consistencies represented by Cronbach's alpha for mindfulness were relatively low at pre-test and follow-up assessment (α = .56 and α = .43, respectively) and improved when one out of the six items of the scale was taken out (α = .61 and α = .61, respectively). Therefore, five items were averaged in the three points of time to obtain a mean for the scale of mindfulness.

Table 10
Means, standard deviations, and internal consistencies of the measures in pre-test, post-test and follow-up

	Pre-test			Post-test			Follow-up		
Variables	*M*	*SD*	*α*	*M*	*SD*	*α*	*M*	*SD*	*α*
Problematic Internet use									
Excessive use	2.57	.93	.76	2.31	.78	.64	2.27	.78	.68
Social comfort	1.61	.72	.76	1.52	.61	.65	1.36	.51	.63
Negative consequences	1.49	.58	.88	1.37	.42	.80	1.41	.46	.80
Responsible Internet use									
Mindfulness during Internet use	4.62	.52	.64	4.67	.42	.52	4.80	.50	.89
Online persona	1.41	.6	.74	1.19	.36	.57	1.12	.24	.36
Coping									
Social support	1.94	.55	.88	2.09	.63	.91	2.05	.57	.88
Problem solving	2.06	.51	.88	2.34	.57	.93	2.28	.63	.93
Avoidant coping	1.76	.42	.77	1.83	.47	.80	1.81	.50	.83
Psychological needs									
Need satisfaction	3.89	.59	.83	3.98	.60	.85	4.02	.73	.89

Notes. N= 38 for pre-test, N= 37 for post-test, N= 35 for follow-up.

The duration of daily Internet use was asked from participants in the pre-test, post-test, and follow-up assessment. Table 11 shows that participants mainly used the Internet for 30 minutes to 1 hour daily throughout the three times when the assessment was carried out. Also, Table 11 shows that use increased between 1 to 3 hours from pre-test to follow-up for both the experimental (26%, 26%, and 47%), and control group (26%, 39%, and 44%). On the other hand, use decreased between 4 to 6 hours from pre-test to follow-up for the experimental (16%, 5% and none) and control group (11%, 6%, and none). Furthermore, all participants both experimental and control groups became daily users in follow-up assessment.

Table 11
Frequency of daily Internet use in pre-test, post-test, follow-up

	Experiment n= 19 / 19 / 17						Control n= 19 / 18 / 18					
	Pre	Post	Follow	Pre	Post	Follow	Pre	Post	Follow	Pre	Post	Follow
	f			%			*f*			%		
Not daily user	5	2	-	26	11	-	5	-	-	26	-	-
from 30 min to 1 hour	6	6	5	32	32	29	5	6	6	26	33	33
from 1 to 2 hours	4	3	4	21	18	24	5	5	3	26	28	17
from 2 to 3 hours	1	2	4	5	11	24	-	2	5	-	11	28
from 3 to 4 hours	0	2	-	-	11	-	2	1	1	11	6	6
4 to 5 hours	1	1	-	5	5	-	2	-	-	11	-	-
from 5 to 6 hours	2	-	-	11	-	-	-	1	-	-	6	-

Note. / is used for separation between pre-test, post-test and follow-up results, respectively.

Participants were also asked whether they had limits (set by parents or themselves) in Internet use in the pre-test, post-test, and follow-up assessment. According to Table 12, the majority of the participants in both groups had no limits in Internet use across time. A small percentage of students in both groups had limits that they were applying across time, while one student from the experimental group had limits in the pre-test assessment that s/he did not follow.

Table 12
Frequency of limits in Internet use in pre-test, post-test, follow-up

	Experiment n= 19 / 19 / 17						Control n= 19 / 18 / 18					
	Pre	Post	Follow	Pre	Post	Follow	Pre	Post	Follow	Pre	Post	Follow
	f			%			*f*			%		
No limit	14	12	11	74	63	65	11	10	11	58	56	61
Yes and apply	5	6	6	26	32	35	8	8	8	42	44	39
Yes but no apply	1	-	-	5	-	-	-	-	-	-	-	-

Note. / is used for separation between pre-test, post-test and follow-up results, respectively.

An analysis using Pearson's correlation coefficient indicated that there were positive correlations between gender (for females), excessive Internet use, and online persona at pre-test. As depicted in Table 13, excessive Internet use was positively related to social comfort, the negative consequences of PIU, and online persona. But, excessive Internet use was found to be negatively related to mindfulness during Internet use. Besides, social support, problem solving and avoidant coping mechanisms were unexpectedly positively correlated to each other. Responsible Internet use variables were also negatively correlated to each other.

Table 13
Bivariate correlations of the measured variables in pre-test

		1	2	3	4	5	6	7	8	9	10
1.	**Gender**		.33*	.29	.28	-.24	.41*	-.28	-.11	-.10	.05
	Problematic Internet use										
2.	Excessive use	.33*		.66**	.74**	-.54**	.63**	-.01	-.00	.01	-.15
3.	Social comfort	.29	.66**		.78**	-.60**	.58**	.09	.02	.19	-.23
4.	Negative consequences	.28	.74**	.78**		-.71**	.76**	.07	.07	.15	-.30
	Responsible Internet use										
5.	Mindfulness during Internet use	-.24	-.54**	-.60**	-.71**		-.79**	-.04	-.15	-.20	-.03
6.	Online persona	.41*	.63**	.58**	.76**	-.79**		.03	.18	.13	.04
	Coping										
7.	Social support	-.28	-.01	.09	.07	-.04	.03		.63**	.45**	.08
8.	Problem solving	-.11	-.00	.02	.07	-.15	.18	.63**		.50**	.08
9.	Avoidant coping	-.10	.01	.19	.15	-.20	.13	.45**	.50**		-.15
	Psychological needs										
10.	Need satisfaction	.05	-.15	-.23	-.30	-.03	.04	.08	.08	-.15	

Notes. * $p < .05$. ** $p < .01$.; Gender was dummy-coded as 1 = females; 2 = males.

In the post-test, there was a positive correlation between excessive Internet use, and also between social comfort and the negative consequences of PIU, but a negative correlation was shown between excessive Internet use and mindfulness during Internet use, problem solving, and psychological needs (see Table 14). There were negative correlations between mindfulness during Internet use and the sub-scales of PIU. In addition, there was a positive correlation between need satisfaction and social support, as well as between need satisfaction and problem-solving coping mechanism. Also, gender (for females) was positively correlated to social comfort as an aspect of PIU.

Table 14
Bivariate correlations of the measured variables in post-test

		1	2	3	4	5	6	7	8	9	10
1.	**Gender**		.32	.37*	.19	-.24	.26	-.16	-.18	-.08	-.09
	Problematic Internet use										
2.	Excessive use	.32		.50**	.59**	-.45**	.28	-.25	-.33*	-.05	-.34*
3.	Social comfort	.37*	.50**		.61**	-.35*	.28	-.15	-.07	-.12	-.09
4.	Negative consequences	.19	.59**	.61**		-.58**	.39*	-.28	-.18	.03	-.28
	Responsible Internet use										
5.	Mindfulness during Internet use	-.24	-.45**	-.35*	-.58**		-.21	.13	.14	-.11	.23
6.	Online persona	.26	.28	.28	.39*	-.21		-.17	-.05	-.23	.02
	Coping										
7.	Social support	-.16	-.25	-.15	-.28	.13	-.17		.79**	.53**	.57**
8.	Problem solving	-.18	-.33*	-.07	-.18	.14	-.05	.79**		.57**	.53**
9.	Avoidant coping	-.08	-.05	-.12	.03	-.11	-.23	.53**	.57**		.12
	Psychological needs										
10.	Need satisfaction	-.09	-.34*	-.09	-.28	.23	.02	.57**	.53**	.12	

Notes. * $p < .05$. ** $p < .01$.; Gender was dummy-coded as 1 = females; 2 = males.

Table 15 shows that there was a positive correlation between excessive Internet use and social comfort, and the negative consequences of PIU in follow-up assessment. Mindfulness during Internet use and need satisfaction were negatively correlated with sub-scales of PIU. Sub-scales of coping mechanisms were positively correlated to each other. And, social support and problem solving coping mechanisms were positively related with psychological needs. But there was a negative correlation between social support coping mechanism and excessive Internet use. Gender (for females) was positively correlated to the negative consequences of PIU.

Table 15
Bivariate correlations of the measured variables in follow-up

		1	2	3	4	5	6	7	8	9	10
1.	**Gender**		.16	.27	.34*	-.18	.17	-.11	.17	.02	-.17
	Problematic Internet use										
2.	Excessive use	.16		.43*	.69**	-.51**	.05	-.37*	-.26	.12	-.60**
3.	Social comfort	.27	.43*		.68**	-.45**	.33	-.27	-.22	.23	-.43**
4.	Negative consequences	.34*	.69**	.68**		-.58**	.23	-.31	-.42*	.16	-.59**
	Responsible Internet use										
5.	Mindfulness during Internet use	-.18	-.51**	-.45**	-.58**		-.22	-.01	-.08	-.32	.09
6.	Online persona	.17	.05	.33	.23	-.22		.13	.05	-.05	-.05
	Coping										
7.	Social support	-.11	-.37*	-.27	-.31	-.01	.13		.62**	.39*	.54**
8.	Problem solving	.17	-.26	-.22	-.42*	-.08	.05	.62**		.46**	.57**
9.	Avoidant coping	.02	.12	.23	.16	-.32	-.05	.39*	.46**		.02
	Psychological Needs										
10.	Need satisfaction	-.17	-.60**	-.43**	-.59**	.09	-.05	.54**	.57**	.02	

Notes. * $p < .05$. ** $p < .01$.; Gender was dummy-coded as 1 = females; 2 = males.

Gender differences in the measured variables

MANOVA is an extension of ANOVA for more than one dependent variable (Pallant, 2011). It compares the groups and finds mean differences (if there are any) between the groups and the dependent variables.

A one-way MANOVA was performed to test the gender effect on dependent variables (PIU, RIU, coping and need satisfaction) in the pre-test. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance, with no serious violations noted. There were no statistically significant gender differences in the nine dependent variables, F (10, 27) = 1.24, p = .31; Wilks' Λ = .68, multivariate η^2 = .32.

A one-way MANOVA was also conducted to test the gender effect on variables (PIU, RIU, coping and need satisfaction) in the post-test. There were no statistically

significant gender differences in the nine variables assessed in the post-test, F (10, 26) = .97, p = .49; Wilks' Λ = .73, multivariate η^2 = .27. Through a one-way MANOVA, no statistically significant gender differences were found in the nine variables assessed in the follow-up test, F (10, 24) = 1.87, p = .10; Wilks' Λ = .56, multivariate η^2 = .44.

Main analyses

In order to test the hypotheses of Study 2, the following four analyses were performed (see also Table 9): (a) A two-way repeated measures ANOVA was performed with the class between subject factors in order to compare the means of the measured dependent variables over time (pre-test and post-test) and groups (experimental and control group), (Hypothesis 1 and 2). (b) A cross-tabulation analysis compared the categorical variable of time spent on Internet between classes and over time (Hypothesis 3 and 4). (c) A one-way repeated measures ANOVA was performed in order to compare the means of the measured dependent variables (student's and researcher's diaries) during the 10 weeks of the implementation in the experimental group (Hypothesis 5). (d) Finally, a paired-sample t-test was performed to compare parents' reports about their children's time spent in Internet use (Hypothesis 2 and 4).

The main analysis also included a content analysis of the recorded interviews of students in the experimental class after implementation of the Program. During the interviews the students reported on their experience during Program implementation (Hypothesis 6).

Test for normal distribution

A review of the Shapiro-Wilk test for normality ($p > .05$) and/or skewness and kurtosis statistics (between 1.5 and -1.5; Tabachnick & Fidell, 2013) suggested that normality was a reasonable assumption for the data of all variables, except for negative consequences of PIU and online persona. As the comparison groups had almost an equal number of participants, no transformation of the data for these two variables was needed.

A Two-way repeated measures ANOVA

A two-way or mixed ANOVA compares the mean differences, within-subjects (time) and between-subjects (experimental and control groups) (Pallant, 2011) and finds out whether there is an interaction between these two factors (time and grouping) on the dependent variable. In the analysis process, the sphericity assumption was assessed by using Mauchly's Test of Sphericity, and Levene's Test of equality of error variance, and Box's Test of equality of covariance matrices. The normality of the data did not need to be tested as the groups across time had almost an equal number of participants. When the assumption of sphericity was violated, the Greenhouse-Geisser correction was used in the analysis. In the following part, the main effects of time and grouping and their interaction are presented.

Differences in PIU, RIU, coping and need satisfaction as a function of class, time (pre-test and post-test), or their interaction

A two-way ANOVA was performed to check for differences in the dimensions of problematic Internet use, responsible Internet use, coping, and need satisfaction as a function of class, time (pre-test and post-test), or their interaction. MANOVA is an extension of ANOVA for more than one dependent variable (Pallant, 2011). It

compares the groups and finds mean differences (if any) between a combination of the groups of dependent variables.

A two-way repeated measures MANOVA was performed to test the intervention effect on dependent variables (PIU, RIU, coping and need satisfaction) at two points in time (i.e. pre-test and post-test). The independent variable was the class. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance, with no serious violations noted. There was a marginally statistically significant difference in the interaction of time (pre-test and post-test), class (experimental and control) and nine dependent variables, F (8, 28) = 2.17, p = .06; Wilks' Λ = .62, multivariate η^2 = .38.

A two-way repeated measures MANOVA was also conducted to test the intervention effect on dependent variables (PIU, RIU, coping and need satisfaction) at the three points in time (i.e., pre-test, post-test and follow-up). There was no statistically significant difference in the interaction of time (pre-test, post-test and follow-up), class (experiment and control) and the nine dependent variables, F (16, 18) = 1.26, p = .32; Wilks' Λ = .47, multivariate η^2 = .53.

As MANOVA was marginally significant for pre-test and post-test, an ANOVA was additionally run for each variable. For PIU, a two-way repeated measures ANOVA test showed that *excessive Internet* use differed across time irrespective of grouping (experimental or control) F (1, 35) = 5.06, $p < .05$, but no differences between classes F (1,35) = 1.53, $p > .05$ were observed. Also, the interaction between time and classes was not statistically significant F (1, 35) = .07, $p > .05$. Inspection of Table 16 suggests that both classes improved at the same rate in using less *excessive Internet* over time. A two-way repeated measures ANOVA also showed that *social*

comfort did not differ either over time F (1, 35) = .18, p > .05, or between classes F (1, 35) = .25, p > .05, while the interaction of both time and classes was not

significant F(1, 35) = .37, p > .05. This result suggests that the students in both classes did not change over time in *social comfort*. Finally, a two-way repeated measures ANOVA showed no differences in *negative consequences* over time F (1, 35) = 2.13, p > .05, or between classes F (1, 35) = .09, p > .05, and no statistically significant interaction between time and classes F (1, 35) = .92, p > .05. This means that the students in both classes did not change over time in *negative consequences*.

For RIU, a two-way repeated measure ANOVA showed that *mindfulness* during Internet use did not differ either over time F (1, 35) = .27, p > .05, or between classes F (1,35) = .55, p > .05, while the interaction between time and classes was not statistically significant F (1, 35) = 1.69, p > .05. This result suggests that students in both classes did not improve over time in *mindfulness* during Internet use. A two-way repeated measure ANOVA showed that *online persona* differed over time F (1, 35) = 4.44, p < .05, but between classes no statistically significant difference was observed F (1, 35) = .15, p > .05. Also, the interaction between time and classes was not statistically significant F (1, 35) = 1.584, p > .05. Inspection of Table 16 suggests that students in both classes improved over time in *online persona*.

For coping strategies, a two-way repeated measure ANOVA showed that *social support* did not differ over time F (1, 35) = 2.06, p > .05, and no differences between classes F (1,35) = .27, p > .05 were observed. Also, the interaction between time and classes was not statistically significant F (1, 35) = 1.32, p > .05.

This result suggests that both classes did not improve over time in *social support*. A

two-way repeated measure ANOVA showed that *problem solving* differed over time irrespective of grouping (experimental or control) F (1, 35) = 6.70, $p < .05$, but between classes no statistically significant difference was observed F (1, 35) = .01, $p > .05$. Also, the interaction between time and classes was not statistically significant F (1, 35) = .57, $p > .05$. Inspection of Table 16 shows that students in both classes improved across time in *problem solving*. Lastly, a two-way repeated measure ANOVA showed that *avoidant coping* did not differ either over time F (1, 35) = .41, $p > .05$, or between classes F (1, 35) = 1.81, $p > .05$, while the interaction between time and classes was not statistically significant F (1, 35) = .95, $p > .05$. This means that the students in both classes did not change over time in *avoidant coping*.

For *need satisfaction*, a two-way repeated measure ANOVA showed that *need satisfaction* did not differ either over time F (1, 35) = .87, $p > .05$, or between classes F (1,35) = .01, $p > .05$, while the interaction between time and classes was not statistically significant F (1, 35) = .30, $p > .05$. This result suggests that both classes did not improve over time in *need satisfaction*.

Table 16
Comparison of means and standard deviations of the measured variables in each class over time

	Experiment				Control			
	Pre-test		Post-test		Pre-test		Post-test	
Variables	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Problematic Internet use								
Excessive use	2.70_a	1.02	2.48_b	.84	2.45_a	.85	2.13_b	.71
Social comfort	1.54_a	.72	1.45_a	.66	1.68_a	.74	1.60_a	.56
Negative consequences	1.49_a	.66	1.32_a	.31	1.49_a	.53	1.44_a	.52
Responsible Internet use								
Mindfulness during Internet use	4.64_a	.60	4.78_a	.37	4.61_a	.45	4.57_a	.46
Online persona	1.45_a	.79	1.10_b	.27	1.38_a	.38	1.29_b	.43
Coping								
Social support	1.84_a	.61	2.11_a	.68	2.04_a	.47	2.08_a	.60
Problem solving	2.05_a	.53	2.39_b	.59	2.09_a	.52	2.30_b	.58
Avoidant coping	1.80_a	.53	1.95_a	.52	1.72_a	.30	1.71_a	.39
Psychological needs								
Need satisfaction	3.88_a	.58	4.02_a	.64	3.91_a	.63	3.95_a	.58

Note. Means with the same subscripts do not statistically differ while means with different subscripts do differ between each other.

Comparison of time spent on the Internet

In order to compare the time spent on Internet use within the experimental and control groups in the pre-test and post-test, cross-tabulation of categorical variables was used (Pallant, 2011). Regarding time spent on the Internet, it is important to mention that it was low in the pre-test for both groups and remained relatively low over time indicating that neither the experimental nor the control group can be considered as a clinical sample with addictive tendencies (Young, 1998).

Table 17 shows that, in the pre-test, 31.6% (6 out of 19) of the experimental group and 26.3% (5 out of 19) of the control group used the Internet daily from 30 minutes to 1 hour. These percentages increased in the post-test to 37.5% (6 out of 16) and 40% (6 out of 15), respectively. Table 17 also shows that non-daily Internet users decreased from 26.3% (5 out of 19) in both experimental and control groups in the

pre-test to 12.5% (2 out of 16) in the experimental group, only in the post-test. 5 to 6 hours daily Internet use in the experimental group decreased from 10.5% (2 out of 19) in the pre-test to 0% in the post-test.

From another perspective, it can be said that 52.7% (10 of 19) of the experimental group and 52.6% (10 out of 19) of the control group used the Internet from 30 minutes to 2 hours daily in the pre-test, while these percentages increased in the post-test to 56.3% (9 out of 16) and 73.3% (11 out of 15), respectively. Additionally, 5.3% (1 out of 19) of the experimental group and 10.5% (2 of 19) of the control group used the Internet from 4 to 6 hour daily in the pre-test, while this percentage increased in the post-test to 25% (4 out of 16) and 20% (3 out of 15), respectively. Furthermore, 4 to 6 hours of daily Internet use decreased from 15.8% (3 out of 19) for the experimental group and 10.5% (2 out of 19) for the control group in the pre-test, to 6.2% (1 out of 16) and 6.7% (1 out of 15), respectively, in the post-test.

Table 17
Crosstabulation of daily Internet use spent time

	Groups		Time							
			Not use	30 min to 1 hrs.	1 to 2 hrs.	2 to 3 hrs.	3 to 4 hrs.	4 to 5 hrs.	5 to 6 hrs.	Total
Pre-test	Exp.	N	5	6	4	1	0	1	2	19
		%	26.3%	31.6%	21.1%	5.3%	0%	5.3%	10.5%	100%
	Cont.	N	5	5	5	0	2	2	0	19
		%	26.3%	26.3%	26.3%	0%	10.5%	10.5%	0%	100%
Post-test	Exp.	N	2	6	3	2	2	1	0	16
		%	12.5%	37.5%	18.8%	12.5%	12.5%	6.2%	0%	100%
	Cont.	N	0	6	5	2	1	0	1	15
		%	0%	40%	33.3%	13.3%	6.7%	0%	6.7%	100%

Comparison of means of parents' perceptions of their children's Internet use behaviours in the pre-test and the post-test

Parents of the experimental group were asked to report their children's Internet use behaviours in the pre-test and post-test. A paired-samples t-test was conducted to evaluate the impact of the intervention on parents' observation of their children's Internet use. A paired-samples t-test aimed to compare the means of dependent variables assessed in the same group at two different points in time (Pallant, 2011). Results showed that there was no statistically significant differences in parents' perception about their children's Internet use behaviour from the pre-test (M = 1.54, SD = .61) to post-test (M = 1.50, SD = .54), t (18) = .58, p > .05 (two-tailed) (See Table 18).

Table 18
Compare means of parents' perceptions of their children's Internet use behaviours

	N	M	SD	df	t	*p*
Pre-test	19	1.54	.61	18	.58	.57
Post-test	19	1.50	.54			

Comparison of the means of students' diaries for the 10 sessions of the intervention

Students reported their need satisfaction and perceptions of the learning climate in their student diary after each intervention session for ten weeks. A one-way repeated measures ANOVA was used to compare students need satisfaction and perceptions of learning climate across the ten weeks (Pallant, 2011). In this section, firstly, the analysis of students' diaries for need satisfaction will be

presented, followed by the analysis of students' perceptions of the learning climate.

Need satisfaction over the intervention (Students' diaries). Students gave ten reports about their need satisfaction (i.e., satisfaction of their need for autonomy, need for relatedness, and need for competence) in the program sessions. Figure 2 shows the means of students' need satisfaction across the 10 sessions. In order to identify differences among the ten sessions (See Figure 2), the first three sessions were compared to the last three sessions (See Figure 3).

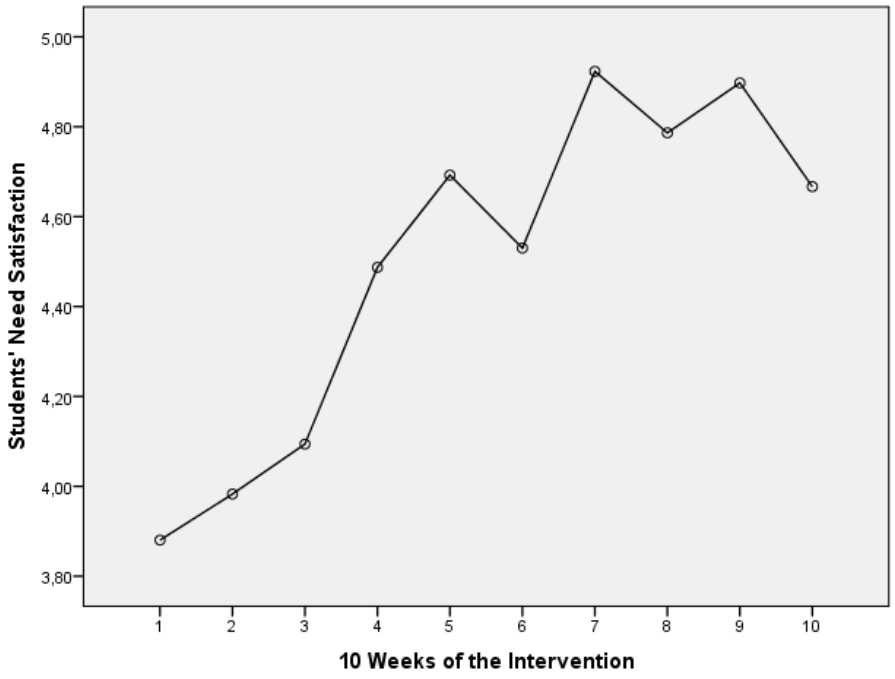

Figure 2. Students' need satisfaction over the 10 weeks

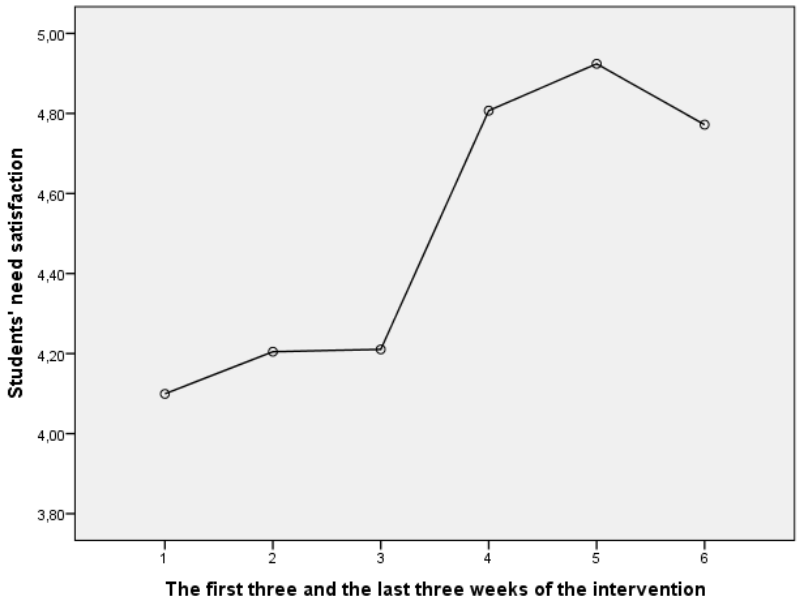

Figure 3. Students' need satisfaction in the first three and last three weeks of the intervention

A one-way repeated measures ANOVA was conducted to compare the means of need satisfaction between weeks 1-2-3 and weeks 8-9-10. The results, with Greenhouse Geisser correction, showed that need satisfaction differed significantly between the first three and the last three weeks ($F(5, 45) = 7.76$, $p < .01$, $\eta^2 = .30$) (See Table 19). After examining pairwise comparisons, there were significant differences between Week 1 and Week 8 ($p < .01$), Week 1 and Week 9 ($p < .01$), as well as between Week 1 and Week 10 ($p = .01$).

Table 19
Mean level of participants' feedback for need satisfaction

Time Period	N	M	SD
Week-1	19	4.10	.84
Week-2	19	4.20	1.10
Week-3	19	4.21	.95
Week-8	19	4.81	.33
Week-9	19	4.92	.14
Week-10	19	4.77	.41

Perceived need support over the intervention (Students' diaries). Students gave ten reports about their perception of researcher's need-supportive style during the intervention sessions. Figure 4 shows the means of students' perception of need support across the 10 sessions (See Figure 4). In order to identify differences among the ten sessions, the first three sessions were compared with the last three sessions (See Figure 5).

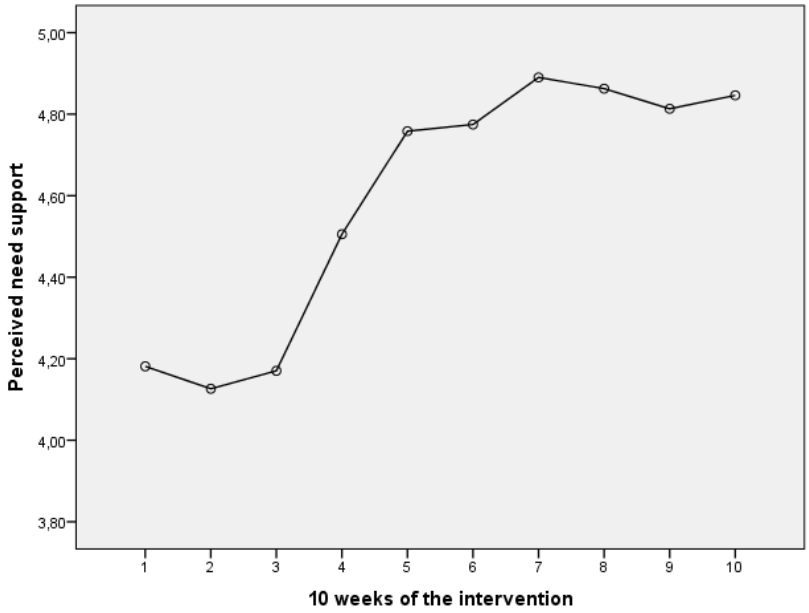

Figure 4. Perceived need support over the 10 weeks

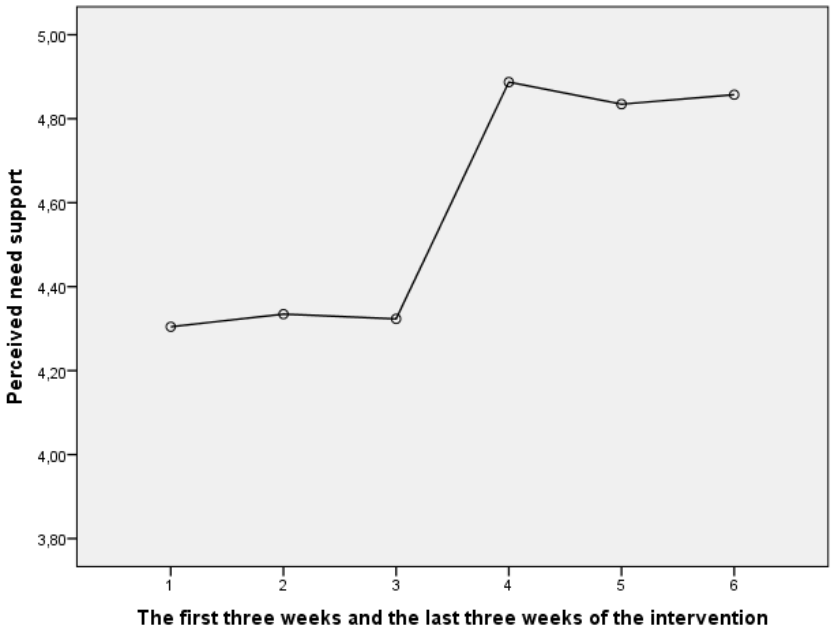

Figure 5. Perceived need support the first and last three weeks

A one-way repeated measure ANOVA was conducted to compare the means of perceived need support between weeks 1-2-3 and weeks 8-9-10. The results, with Greenhouse Geisser correction, showed that the perceived learning climate differed significantly between the first three and the last three weeks (F (5, 45) = 4.80, p < .01, η^2 = .21) (See Table 20). After examining pairwise comparisons, there was a significant difference between Week 1 and Week 10 (p = .03).

Table 20
Mean level of participants' perception for need support

Time Period	N	M	SD
Week-1	19	4.30	.79
Week-2	19	4.33	1.04
Week-3	19	4.32	.89
Week-8	19	4.89	.33
Week-9	19	4.83	.25
Week-10	19	4.86	.32

Means of the researcher's need supportive style (researcher's quantitative diary) over the 10 sessions of the intervention

The researcher reported how she contributed to the students' need satisfaction through her leadership style after each implementation over ten weeks. The mean levels of the researcher's perception of her need supportive style are presented in Table 21 and Figure 6.

Table 21
Mean levels of researcher's perception of her need supportive style

Time Period	M
Week-1	3.89
Week-2	4.22
Week-3	4.56
Week-4	4.67
Week-5	4.78
Week-6	4.78
Week-7	5.0
Week-8	4.89
Week-9	4.00
Week-10	4.44

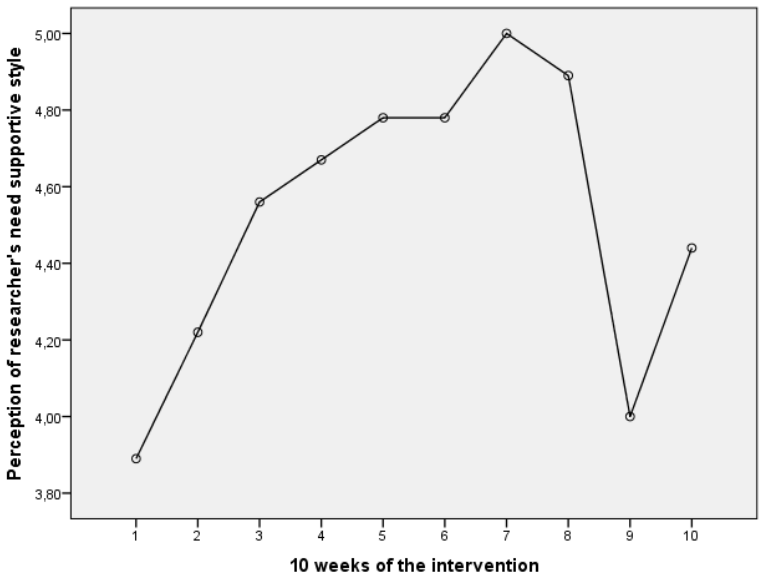

Figure 6. Researcher's perception of need supportive style over the 10 weeks

As can be seen, the researcher in general evaluated her need supportive style highly during the 10 sessions, as did her students (see Figure 6). The lowest evaluation of the researcher's need support corresponds to week-1 and week-9 and the highest to week-7 and week-8.

Comparison of means of the researcher's perception of need supportive style and students' perception for need support

An independent-samples t-test was conducted to compare means of the researcher's perception of need supportive style and the students' perception of need support. There was no significant difference between the researcher's perception (M = 4.52, SD = 0.38) and the students' perception (M = 4.58, SD = .30); t (1, 18) = -.36, p = .73. These results suggest that the students' perception of the researcher's need support was similar to the researcher's perception of her need supportive style.

Results of the qualitative analysis of researcher's reflective diary

The results of the researcher's reflective diary are reported in this section. The goal of the qualitative analysis of the researcher's diary was to get an extensive understanding of her experience and reflection during the implementation of the MiNDLifeResP. The diary was kept after each of the 10 weekly sessions by the researcher. In her diary, she mostly indicated facilitating or challenging aspects of the intervention Program. She also reported her emotions and thoughts on her perception of her need supportive style during each session. The reflective diary was kept in Turkish, and the researcher has translated it for the purposes of the analysis. The researcher read the reflective diary many times to identify repeated themes. Two general principal themes were identified in the data, viz. facilitators of the

implementation process, and difficulties with implementation. Each of the themes is explained separately in what follows. Single quotation marks have been retained where quotations from the diary are presented, even though the responses are translated ones. Quotations from the weekly diary are accompanied by abbreviations after the text: for example, DW1 stands for diary week 1, and DW7 for diary week 7.

Facilitators of the implementation. From the researcher's reflective diary five aspects of the intervention were revealed as facilitative for students' participation in the activities. These five aspects were: use of audio-visual aids; specification of a volunteer teacher's helper; students' free choice of group membership in activities; use of drama; and use of places other than their classroom to carry out activities. Each is discussed separately below.

i) Use of audio-visual aids

It was evident that audio-visual aids facilitated the implementation of the Program. These audio-visual aids included thought-provoking videos, attractive photos, audio narration, an interactive Moodle page, and interesting slide presentations.

The thought-provoking videos that were identified as interesting and attractive were the following: "technology evaluation"; "two-minute science"; "welcome to the future" in DW1; "only given a password" in DW3; "Little Red Riding Hood on social media" in DW4; "cyber-bullying" in DW7; and "information sharing disorder" in DW9. The following statement from the researcher's diary shows how videos promoted students' participation in the program: 'I asked students how Little Red Riding Hood uses social media. And as we watched the video, they were having fun, and even wanted to watch it once more' (DW4). It seems that appropriate and

attractive videos provided effective explanations rather than hundreds of words.

In addition, different photos which represented a variety of images related to real and digital life were used as a stimulus for an inquiry process in week 1 and week 3 (Pandora's Box in Digital Life). According to the researcher, this 'helped to clarify similarities and differences between digital life and daily life' (DW3). It seems that the photos provoked students' curiosity and supported their understanding of online and offline life.

An audio narration was used to introduce the process of identity formation in week 2: 'The students are interested in listening to the story, the dog who does not know how to bark - I recorded it using my own voice' (DW2). The researcher reported that she distributed three short questions related to the story before the audio narration and this increased effective listening in the classroom. The students found the activity interesting because the recorded story was uninterrupted and the fluent narration raised their interest.

The researcher prepared an interactive Moodle site in order for the students to follow the program on a daily basis. As recorded in the researcher's reflective in DW1: 'I edited the Moodle and I saw that five students visited the page in the evening. This was a reward for me'. The Moodle page included special tasks for students but they were not forced to practice them each week: 'I liked the fact that the majority of the students had completed their special tasks from last week' (DW3). Special tasks can be thought of as homework. But, as most of students may not have liked the term "homework", the researcher used the term "special task" to increase the attractiveness of the homework related to digital life. The special tasks aimed at

gaining a broadly-responsible perspective on digital life. The Moodle system acted like a digital assistant which guided students in what they had done in the previous week, as well as in what would happen in the following week. Through Moodle the students were also able to share what students had done on their special tasks in the previous week.

Slide presentations were stated to be an attractive visual tool, such as using Prezi in DW3, and using Piktochart in DW4: 'They want to see me use different technology applications, like Piktochart. I mean I cannot get their attention anymore by coming up with a presentation in the classical sense. These children are also developing me and how I present the information in a short, concise and interesting way. It is good' (DW4). This reflection evaluates the researcher' professional progress.

ii) Specify a volunteer teacher helper

The teacher's helper was an important asset in the intervention. Students participated in the intervention as helpers in terms of drawing mind maps on the board during general discussions, taking photos, or preparing presentations. When the researcher asked who would like to help today, almost all students' put their hands up. This voluntary engagement could be reframed as a characteristic of the classroom. It was evident that the volunteer students showed their interest in the implementation of the Program: 'Two volunteer students wanted to complete a drawing about group rules while their friends had a presentation' (DW1). In addition, one student suggested to me that the presentations which I prepared could be summarized more interestingly. He asked me whether I knew how to use Prezi. I replied that I had used it, but had forgotten how, and I needed help. I asked him whether he would like to help me, and

we talked about how we should handle this. Finally, I prepared a summary a week before, and sent it by e-mail to him to be transferred into a Prezi in DW3. Another example of helping in the classroom was: 'When I asked students who would help to write a summary on the board, two students became helpers immediately. They created a mind map on the board to summarise the group discussion' (DW4). These summary maps were done in almost every session with different helpers. A further example was noted: 'Two students summarized the discussion by drawing a mind map. Another student took photos of her friends while they were engaged in the activity. They seemed extremely pleased with their roles' (DW5). Again: 'T. was a teacher helper today. He seemed pleased to be helpful when taking photos, and helping with computer issues. He really tried very hard to complete work' (DW8). These instances of help from volunteer helper students could be considered as examples of different forms of belonging to the classroom. Similarly, this helping process could be regarded as indicative of the establishment of a positive relationship in the classroom.

iii) Students chose freely group members for activities

Choosing group members was reported as an important issue during the implementation. It was evident that students appeared to have an empathetic attitude to the others from DW1. As reported in the researcher's diary: 'I told them I wanted to be able to group two or three students together, and for them to sit side by side. They usually coupled up with their best friends. There were no excluded or unwanted students during the activities. This is a good thing' (DW1). The researcher also started using a different and useful strategy for dividing students into groups in week 2: 'This week I made a bag with five coloured beans from which students were asked

to choose beans without seeing their colours. They took coloured beans enthusiastically, and were organized into groups around the same colours' (DW2). In addition, it was evident that using different strategies for deciding on group membership was interesting for the students, and they paid particular attention to the process: 'I prepared small pieces of papers numbered as 1, 2, and 3. Different statements related to an activity on digital life were written on the papers: 1 represented a stress-trigger situation; 2 was related to thought; and 3 to an emotion. This activity tried to show how people could be affected when exposed to a stressful situation, incorporating situation-thought-emotion. I made groups of three and gave a number to each student between1-3, then handed them numbered written statements: 1 (situation), 2 (thought), and 3(emotion). So the numbers given to each student matched each numbered written statement. Initially, these numbers created a meaningful sentence within the group. Then, I called out 1, 2 and 3 respectively, a student stood up from different groups and read out his/her statement. This way, they created another meaningful sentence together. It was fun. While the students in each group were reading their sentences, new complete sentences emerged from other members of the group' (DW6). It seems that, when adolescents feel free to choose their group members for an activity, they are more likely to participate in the activities. An indispensable part of a young adolescent's relationship is friendship.

iv) The use of drama

The researcher used the term "Internet Detective" during implementation. At the beginning of the implemented Program, the researcher explained to students that they would become experts in how to be responsible Internet user. It was assumed that after ten weeks they would be able to easily detect misuse of the Internet. Also, the

term was used as a character for some role-playing drama activities. Students were called Internet detectives for being responsible Internet users, as noted: ‘The students completed their special tasks, and seemed excited as they shared them, adopting the role of Internet detectives’ (DW2), and, ‘in order to reduce the stress of the young adolescents in a scenario, you can help them, by having them act as Internet Detectives, in how they cope with the problems effectively’ (DW6); and a further example was: ‘Later, the students examined their friends' charts of time spent in groups with two or three people, and gave feedback to each other using the role of Internet detectives’ (DW7). The researcher connected the Internet detective term with being a responsible Internet user, in the manner of a game, to help students detect and find a reasonable way of balancing online and real life. Adopting the role of Internet detectives may have strengthened students’ responsible Internet use. Drama as a strategy was essential for student engagement: ‘Pupils become more enthusiastic, and speak a lot, when they do drama’ (DW9).

v) Use of places other than their classroom to carry out activities

Changing the place of the classroom was reported as strength of the implementation. The researcher used a teacher meeting room for a round table forum. The students were asked to act as if they were an adult at this round table for the discussion; as noted by the researcher: ‘The experience of expressing opinions as an adult has affected the students very positively. They all raised their hands to join in, and they talked with a different voice tone, as if they were an adult. I enjoyed both seeing them all entertained and hearing their participation in the conversation’ (DW4). The teacher meeting room was used once more in week 5. As noted : ‘The students were as eager and lively as they were last week. They all raised their hands to participate

into the process' (DW5).

Difficulties of the implementation. Based on the researcher's reflective diary five difficulties were identified in the implementation of the program. The difficulties have to do with time management, student behaviours that required special attention, assigning group members to group work, the implementation of the intervention during the computer course hours, and different gender attitudes.

i) Time management

The researcher's diary reported that more time was devoted to some activities than planned. As noted: "I gave up implementing an activity, although it was one of the session goals. I jumped a detailed part when the photography study took too long a time. Actually, the photograph study also served the same objective. I have not been good at planning my time. Now I see. I think, it is enough to focus on just one activity in depth in the first session, in particular!' (DW1). Several statements in the reflection were of a similar vein, viz. 'Students spend a lot of time writing and painting of slogans in group work' (DW2); 'the bell rang while students were writing their diaries. They continued completing them. It would be good to create time in advance of this break' (DW3); or, 'After examining the results of the Internet habits inventory, I presented different choices to my students for an activity; for example, write a newspaper article, a power point presentation, make a slogan, or do a study of their choice, depending on their creativity, in order to be responsible Internet users as Internet detectives. They are making a lot of effort to complete it, but they have not been able to complete the majority of their work within the course time, unfortunately' (DW7); and, finally, 'I created a chart, called 'balanced life', and

asked the students which aspects of their balanced life graph they thought were well developed or which needed development. But this activity took more time than I planned even it was worked well' (DW8).

After evaluating the reflection on the difficulties with time management, the researcher had a clearer understanding that it may be better to limit the number of activities to one in each lesson. Moreover, having many options for classroom activities for the students may increase ambiguity and adversely affect the schedule, e.g. week 9. In addition, mobile activities used in the first part of the lesson were related to the onset of difficulties in managing kinaesthetic energy and behaviour, as they continued being active in the second part of the lesson. This could be the reason for not paying attention in the current study, and problems of time management, e.g. week10. On the other hand, it is clear that it is not always easy to predict which activity will get more interest from the students. Increased awareness on the part of the researcher of using activities can be concluded as one of the key learning points from implementation of the study.

ii) Student behaviours that required special attention

The reflection examined student behaviours that required special attention. The researcher reported some behaviour which disrupted activities, interrupted conversations, or tried to make others laugh. As noted: 'She (a student) commented on almost everyone's speech this week and intervened immediately, and made everyone laugh. Some of her friends asked her to stop her behaviour' (DW5). One student was reported as working alone: 'When I asked to the students set up groups with two people, one student told me that he could not find a group and that he

wanted to work alone. I told him to try to join a group with three people, but he replied again that wanted to work alone. I accepted his request, but instead of focusing on the activity, I had to warn him several times because he was playing a game on the computer' in week9. Moreover, some students indicated they wanted to have more conversation time and participate in discussion, as if they were the only ones in the room: 'Some of my students wanted to speak again and again at the meeting. Because of the limited time and other students who wanted to participate in the discussion, I could not let them talk, unfortunately' in week4. Furthermore, a student was observed, as noted: 'It's nice to see him start talking about himself. He was so quiet and hesitant in previous weeks' (DW5). Different student behaviours needed attention. Dealing with such behaviours could be said to be an essential component for every instructor in any educational environment. Some behaviour could be related to personality, or temperament of the adolescents, and some behaviour could be related to a disorder like attention deficit, impulsivity etc., and some behaviour could be related to a need for more social emotional development. The researcher was aware of student behaviour as a kind of challenge during implementation and tried to solve the unwanted behaviour with the students themselves. This process could be evaluated as contributing to the professional development of the researcher.

iii) Assigning (or designating) group members to group work

The reflection investigated designating group members to groups. In one of the sessions, the researcher gave numbers to the students in turn, such as 1, 2, 3, 4. These numbers were to create groups in the classroom for an activity. But, the students seemed not to be happy with this strategy: 'I grouped the students by giving

them a number, 1, 2, 3, and 4. The students did not like to be with different friends which they did not choose them for group work. They were reluctant to form groups. I did not insist further. I changed my decision and everyone chose his/her friends freely. After every student chose her/his friends, they started to work well in the activity' in week3. It was interesting to compare this to the students random choice of coloured beans from a bag in previous week, which they liked. In fact, if the number of people in the group was not equal, even when the students were able to choose their friends, it led to a problem in the classroom: 'When I told them we need 4 groups in total with the students who wanted to work together in a group, they chose their friends as a group with six people, a group with five people, two groups with four people. In fact, they always choose the same students! When I asked them how they felt when group numbers were different, they said they did not like it. After about a -minute discussion with different suggestions, they accepted that the group numbers could stay in this way' in DW10. Choosing group members for an activity was a crucial point for early adolescents. A key conclusion from the diary is that students wish to choose their group members based on their own preferences.

iv) The implementation of the intervention during the computer course hours

The program with the experimental group was done during computer lesson hours. At the same time, the computer teacher was unable to attend because she was pregnant. While the researcher was implementing the program with one of the sixth grade sections, the other three sixth grade classes were having a computer course with a high school teacher. The researcher reported some difficulties with implementing the intervention, instead of a computer course: 'The students asked whether they would have a computer lesson this education year. I told them their

teacher would come to school in December, it means half of the education year. Some students seemed dissatisfied with this' (DW1).

Another problem occurred in the computer classroom. This problem was related to technical problems in some computers which students used during the activities in the implementation: 'Other students are focused on their work, but the students who want to study Pivot (an animation program) said that they could not save their works in the computer. Another group had to postpone their studies due to a problem with the computer, too' (DW9).

v) Different gender attitudes

The researcher made some observations about different gender attitudes during Program implementation: 'At the end of the study I observed a low level of interest by some male students. Perhaps the subject was not be attractive to them, or it could be due to them just being back to school after a holiday.' in DW1, and also in DW2: 'While some male students were less involved than last week, girls showed a more positive attitude related to participation and enthusiasm'. On the other hand, some improvements occurred in the process. The researcher reported satisfaction with the participation of male students in DW5: 'I think that the interest of the male students in working has also made me happy'. These incremental changes in male students showing enthusiasm could be associated with previous comments about the computer course.

In conclusion, an analysis of the researcher's reflective diary during the implementation provides an understanding of some of the issues which facilitated or caused difficulties during the implementation process (See, Table 22). The analysis

also provides some insight as to how the researcher developed through the process, and provides tentative guidelines to teachers or counsellors who want to implement a similar program in their school.

Table 22
Summary of the researcher's reflective diary analysis

Implementation Facilitators	**Implementation Difficulties**
Use of audio-visual aids	Time management
Specifying a volunteer, teacher helper	Student behaviours that required special attention
Students freely choosing group members in activities	Assigning group members to group work
Use of drama	Implementation of the intervention during computer course hours
Use of places other than their classroom to carry out activities	Differing gender attitudes

Results of the qualitative analysis of student interviews

The results of the student interviews are presented in this section. The aim of the qualitative analysis of students' interviews was to gain an in-depth understanding of their experience and the benefits of the Mindful and Need-supportive Digital Life Responsibility Program (see Appendix J: MiNDLifeRes Program, p. 205). Individual interviews were carried out with the students of the experimental group immediately after the completion of the 10-week Program and completed within two days. These were carried out, as explained in Chapter 3, by another member of the counselling team. Questions were asked under each of the headings below and the results are discussed individually in what follows. The original questions were asked in Turkish, and the researcher has translated them for the analysis which follows; translations were submitted to an expert for verification of their trustworthiness. Single quotation

marks have been retained, although the responses were translated.

Meaningfulness of the program. Students' responses were analysed as to whether the implemented MiNDLifeResP connected with their daily lives in a meaningful way. Five themes were identified in the data related to the meaningfulness of the program: awareness of a balanced life; purpose and duration of Internet use; awareness of safety Internet usage; coping with emotions and stress on the Internet; and generated knowledge (see Figure 7). Each of the themes is explicated separately in what follows.

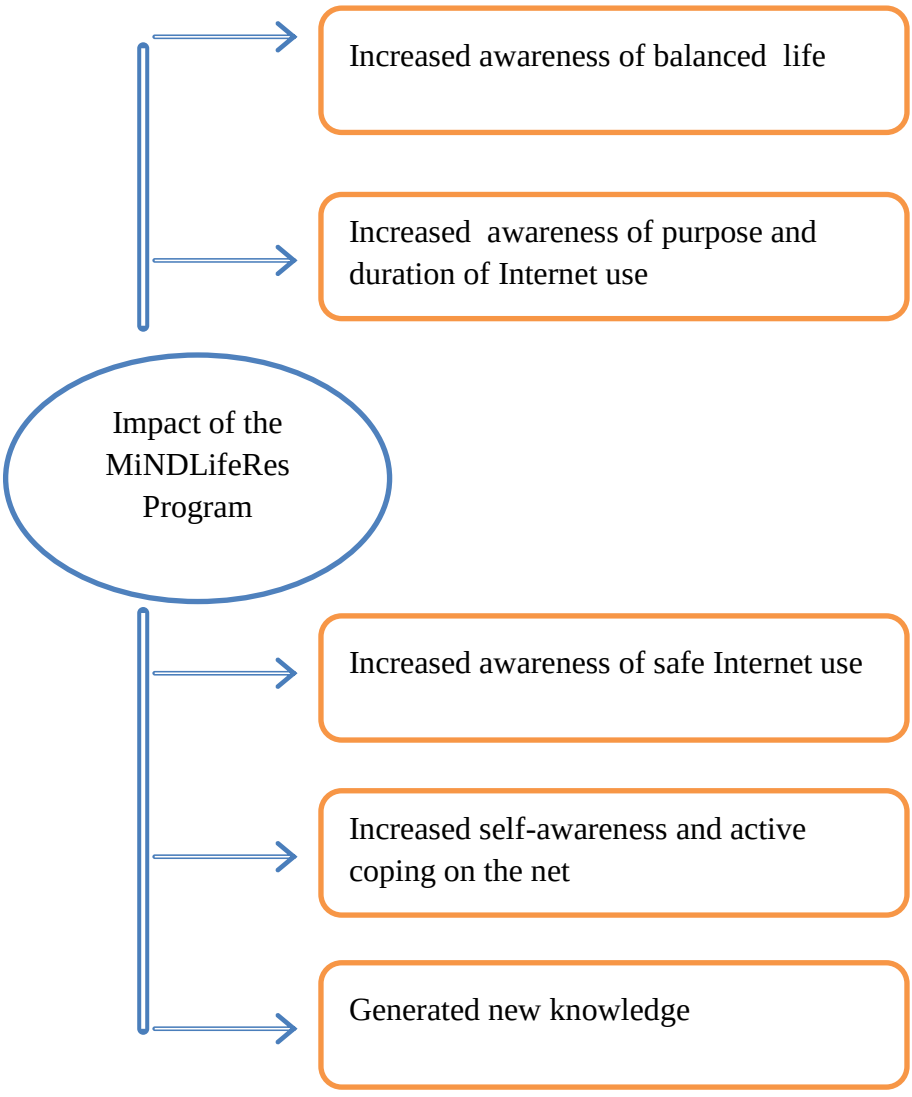

Figure 7. Impact of the MiNDLifeResP

i) Awareness of a balanced life

Student responses to the question about whether they found the program meaningful in relation to their daily lives showed the concept of *balanced life* as a priority. A balanced life was one of the activities in the implemented program, which asked students to evaluate themselves in four adolescent life priority areas, viz. a balance in the time devoted to healthy living (i.e. sleep, sports, nutrition), school issues, relationships with peers and family, and technology (Internet use).

From student responses after participating in the MiNDLifeResP it was apparent that students' use of reflective thinking had increased related to how they allocated their time in the above four areas; in particular on whether participation in this program caused changes in the purposes of their Internet use and the time they reserved for it. Students participate in after-school activities based on their abilities and talents (e.g., choir, drama, and basketball, etc.). Students reported that, when school-related requirements increased with respect to exams and assignments, they had little time to rest or engage in family interaction. After experiencing the Balanced Life activity, respondents planned to spend more time with their families. When they calculated the amount of time they had spent on the Internet, they also realised how other areas of their lives had been neglected in terms of sleep and rest, as exemplified in the following statement: 'there is no time to rest and relax when we come home in the evening. I have discussed this with my mom. We have prepared a table and left some spare time at the weekend'.

Students who evaluated their own Internet use time also took the opportunity to observe and interpret how much time their family members spent on technology, 'my younger brother plays games on the computer all the time and me and my mom

cannot remove him from in front of the computer. Only my father can when he comes home.' One student also stated who in the family was the most interested in mobile phone use, 'my father uses smart phone more than my mom'; and, what she mainly used Internet for, 'I paid more attention to my social network use on Facebook or Instagram at home'. Clearly these respondents were able to reflect and conclude that others, as well as themselves, were engaging in inappropriate Internet use.

Respondents also reported beneficial conversations with parents as a result of the program about what their parents did when the parents did not have the Internet available during their school years. This came out as a result of one of the assignments that students were asked to complete. When the students compared their own with their parents' school years, they found that, for example, a tool such as Google greatly facilitated their learning at school, a possibility that their parents did not have. In addition, the students discovered that their parents had more difficultly in searching for information, writing assignments without an Internet connection, or using computer technology to produce documents. One of the students clarified this different between present-day technology and the past: 'I noticed that we are doing most of our homework through the Internet. This thing called Google. I thought how it was in my mom's and father's day where they did not have the Internet. I asked them, and I made some research about the past'.

Moreover, when compared with her parents who used to use the post, this student realized she had never used the regular postage system for communicating with her peers. 'I recognized I and my friends, we did not write regular letters anymore'. This seems to suggest that using the Internet, using e-mail or WhatsApp, for example, is

seen as a natural part of communication in adolescents' daily life. These students, born *digital natives,* have a different outlook on life than their parents who are *digital immigrants*. The students were also able see how positive use of the Internet facilitated their education when compared to the past as exemplified by their parents' lives. Participation in the program made this clear.

ii) Purpose and duration of Internet use

The students evaluated the frequency of their Internet use and what they used it for in the interviews. When student responses were analysed, seven students reported using the Internet 'too much' before attending the MiNDLifeResP. These students did not identify use numerically but only gave a general perception of the time by using the words "too much". As one student reported: 'the time I stayed online was a bit too much. I learned that the Internet is not useful when you stay online for too long, then I thought I can reduce the time I spend online a bit'. They shared their thoughts on how they reduced their time spent on the Internet. Before participating in the program, these students used the Internet to play online games or surf. After the program this was replaced by Moodle use for school studies, with priority given to research for assignments. It is noteworthy that these students were aware that Internet use caused a reduction in sleep duration and quality: 'the Internet sometimes prevented me from sleeping. I sorted it out and I reduced online gaming after this program, and started to use the Internet a lot more for my lessons'.

Four students reported that they did not use the Internet much in their daily lives both before and after the implemented program, even though their parents did not limit their Internet use. It was evident that they were already aware of the need for positive

Internet use: ‘I do not have any restrictions on the Internet. I do not use it that much, mostly to work on assignments and exams’. However, one student who was barely interested in the Internet before the program, developed a positive interest in using the Internet after joining the program: ‘it was positive for me to get accustomed to the Internet and spend more time online because my mom was always telling me to be more interested in the Internet and not ask her all the time, but ask on the Internet what I am curious about’.

In brief, the implemented program’s activities helped to increase students’ reflection as to how and on what they mostly spent their time. As one student stated: ‘I learned that, if we spare too much time for Internet or any other thing, this can underline the other things we have to do: we have to balance out time for everything’. This exemplifies the achievement of one of the targets of the MiNDLifeResP.

iii) Awareness of safe Internet use

Under this concept were classified statements in which the students expressed an awareness of the need for safe Internet use. Four awareness-related themes were determined, viz the risks of sharing passwords, the permanence of information shared on the Internet, cyber bullying, and measures for safe Internet use.

Firstly, students’ statements were analyzed, they revealed that password sharing was carried out in real life. This is an important issue in that changes in early adolescents’ friendships in their daily lives can turn into conflicts which could be transferred to an Internet platform. If adolescents do not manage their conflicts well, and of they know his/her friend’s password to social media applications or cellphones, they may use this password for a variety of reasons; for example, just for fun, or, more

problematically, for revenge, etc. One student reported: 'I discovered that I was doing some dangerous things online. For instance, I trusted some of my friends and gave them some of my passwords'. After participating on the MiNDLifeResP, another student increased his awareness of the fact that a 'friendship does not mean sharing a password'. Thus, students showed their *awareness of the risks of sharing their passwords* with others, even their best friends. As one student said: 'I shared my passwords with my friends, but bad things happened to some of the students in the activities-scenarios in the MiNDLifeResP. For instance, a student got cross with her best friend. I am not sharing my passwords with anyone since then, and I have already changed my passwords'. It seems that some students had shared their passwords with their friends prior to the program. After involvement in the program with some activities and videos, they realized that even relationships with best friends may change and become even worse if the problem is transferred to their digital lives. Students in the MiNDLifeResP watched other young adolescents' real life incidents on the videos. Case studies were prepared for students to try to find solutions to problematic Internet use issues raised during the program implementation. This seems to have led to increased awareness on the part of the students.

Secondly, student reports showed they increased their *awareness of the permanence of information on the Internet* and the rapid spread of what is shared on the Internet. One student reported how the speed with which shared information reaches hundreds of people within a few seconds really affected him. Students in general were affected by the fact that every action in the virtual environment, even if it was deleted, there was a possibility of it getting out. This potential risk may be one of the contributory

factors to increasing students' sense of responsibility for their digital actions 'I learned better that anything we put on the Internet can be reached by other people. Thus, I learned that things we put on the Internet can find us again in the future'.

Thirdly, it was found that cyber-bullying-related activities were a beneficial reminder, and based on students' statements, further increased awareness in this area. Before joining the implemented program some of the students had made fun of friends' posted photos, which were shared without their permission: 'Before we used to think it was just a joke to bully someone on the Internet by using a nickname'. After the students participated in the program, it was stated that they developed an empathy with those people: 'I used to laugh before, but now when I watched the videos in the class I understood how vile it is. I empathized a little, I put myself in their shoes'. It seems clear the students improved their awareness regarding cyber-bullying, how it made people suffer, by imagining the consequences of it. It was particularly important that adolescents developed an awareness of how what started as a joke with their friends easily turned into cyber-bullying by exceeding the purpose of the joke. Furthermore, that cyber-bully could be an IT crime was another important point for students' awareness. So, the students developed their in-depth perception of *cyber-bullying* in their use of expressions of awareness such as: 'We have to act online as we do in real life. Nicknames do not save us from anything'. These students' statements show that they understood that a person's thoughts, emotions and behaviours in daily life continue in parallel in digital life and that they should be mindful of both and take responsibility in both spheres.

Lastly, students shared their preventive *measures for safe Internet use* after the

program. Students who use social media reported on updating their profile settings so that only their friends could reach them, and they made their security passwords more complex: ‘I set my security passwords. In case someone breaks the code, I put a second security question in place’. Students seemed more vigilant connected in refusing follower requests from strangers, or not talking with strangers in online conversations: ‘I'm talking to my friends not to other people in a face-to-face online chat’. Furthermore, students reported that they paid more attention to deleting WhatsApp messages such as: ‘These things will happen to you if you do not send this wish to ten people you know’, and this students ‘blocked people’ if they continued to send these messages despite her warnings. One student reported that if they felt disturbed by someone on social media, like on Poke, one of the applications in Facebook, rather than paying attention to him/her, they blocked them as a coping skill.

Another important component of safe Internet use is online games, one of the most attractive areas for early adolescents. Based on the student interviews, their awareness of precautions for safe Internet use increased after attending the program. When the students met someone with a nickname who used strong language during a game, they started to take measures like discontinuing the game. If there was any rude language use or swearing, they reported these people or closed the chat: ‘When playing a game, for example, if someone is rude, I do not talk to him anymore, and turn off chat’. Additionally, this student said ‘more secure websites were chosen for doing research’ instead of using web pages he did not know very well. Finally, another student reported that safe ‘use of an Internet connected computer for security reasons required that the web camera remain closed when it was not in use’. This

adjustment on the computer was made after the issue was introduced in the program. Therefore students seemed to be convinced by the preventive measures needed to deal with potential risks in digital life.

iv) Feelings and stress on the Internet: Coping and mindfulness

Analyzing the interviews showed that students might experience various feelings like those in daily life while interacting on the digital life. Students thought 'sharing happy moments or comments could make other people happy, and posting angry comments could increase anger reactions more'. Students' statements shared during the program indicated that anger was the fastest spreading feeling on the net. Students' opinions showed an awareness of the importance in digital life of paying attention to actions or discourse that would embarrass or upset someone else. This was an important step in understanding the feelings during being online and the reaction of the people to stress. In the program students discussed with their peers how they could cope with stressful situations such as homework, or school life in their daily life. They found the opportunity to evaluate their own stress reactions and coping strategies through those interactions; 'we discussed problem solving steps and how to beat stress… we implemented stop, think and act steps. It might be more useful to take action, instead of crying like I do'.

v) Generated knowledge

The students also found it meaningful that new learned knowledge contributed to the program. They were able to understand: 'what a digital footprint and digital native means'; that 'cyber-bullying could be a crime, such as swearing at someone or using bad words to people on the Internet'; 'which components should be considered when

establishing a balanced life'; 'the speed of the spreading of information'; and 'how emotions are contagious on the net'. One of the students who 'taught new concepts, such as digital footprint, to her younger brother' is an example of the transfer of learned knowledge from the program into daily life. In order to explore the meaning of the new learned knowledge in early adolescent life 'I did some research on digital footprints. I developed other opinions based upon others' footprints'. This may be read as an example of the benefit of the MiNDLifeResP.

Satisfaction of psychological needs during the implemented program. Three questions were asked during the interview to capture the students' satisfaction of their psychological needs during the activities of the program. Each question corresponded to three psychological needs, as follows: "Did you feel free to express your opinion or to make choices during the program's activities?" (need for autonomy); "Did you find the activities appropriate for your skills and interest?" (need for competence); and "Did you feel a group member (i.e., well connected with others) in this class?" (need for relatedness). Responses to those questions or related statements coming from other questions were classified under the three corresponding themes below.

i) Need for autonomy

When students' responses were analyzed, the fulfilment of the need for autonomy in the classroom was evaluated as being able to express one's feelings and thoughts, having a sense of making choices and making decisions. It is worthy of note that students' statements emphasized 'fair distribution of tasks, planning activities at equal difficulty levels', and 'having the freedom to choose the activity'. Groups were

‘able to choose the activities without any imposition’ and the groups were chosen by the students themselves. On a few occasions the researcher formed groups through means such as asking students to pick a color. It was seen that when distributing tasks, students ‘were able to decide on the tasks based on their interests’. These tasks included drawing, painting, or writing, amongst others.

A further example of choosing activities was in the special tasks prepared by the researcher and posted on Moodle as assignments. Students were offered options on Moodle assignments, including useful information about the topic of the week. It was reported that ‘assignments with two or more alternatives were more appealing, fostered creativity’, and thus, enabled students to choose the most appropriate one for themselves. This is supported by the following student statement: ‘Our teacher shared much information on Moodle that we could use. At the same time, she gave us five or six options to choose from. One of these should be suitable for anyone. I was able to do very creative things; for example, I made a film frame’. When discussing case studies provided by the researcher on the subject of the lesson and presenting them to the class using a method decided on by the group, students reported that they ‘had the chance to choose the case which they wanted to deal with’.

ii) Need for relatedness

An analysis of the students’ comments showed that the need for relatedness in the classroom was defined as feeling as part of a group, and not having a sense of exclusion, but one of inclusion. The students’ statements indicated that the researcher treated each student as an ‘individual and kept an equal distance from all students’.

The students noted that ‘sitting in the teachers’ meeting room around a round table so that they could all see each other and being allowed to share their ideas about the topic individually like an adult enabled them to have the experience of being treated as an individual’.

It was clear that when choosing activity groups, students preferred to form groups with their best friends, those students who were not happy with their groups could change, and this made students feel more comfortable in such activities. Students’ statements indicated that they ‘were caring towards their friends who were not included in any of the groups and tried to involve each student during grouping’. Members of the groups that ‘completed their tasks exchanged ideas about how to present the task, and thus it was observed that all members were treated fairly’. Consequently, while making preferences about which tasks to complete in group activities, students experienced ‘a sense of belonging to a group and contributed to the task individually’. The following student statement presents a clear evidence of this: ‘Sometimes our teacher gave some assignments to everyone when we were doing group work. I think she wanted us to feel as a member, an individual of the group. And even if the teacher did not give us assignments, we took care of it within the group. We shared the assignments between us. That made me gain a place in the group’. Students’ comments also revealed that when ‘there were differences of opinion during activities (we) had the opportunity to solve our problems in the group’.

Lastly, as another example for the fulfilment of the need to express one’s thoughts and feelings to meet the need for relatedness, as well as the need for autonomy,

students were ‘asked to complete a survey at the end of each lesson to explain how we felt about the tasks performed’ and the researcher’s attitude towards them.

iii) Need for competence

When students’ comments were analyzed, it was seen that the need for competence was described as the appropriateness of the tasks for the knowledge and skills of a particular age group and being able to express one’s competence. Of the eighteen students, sixteen stated that the activities were appropriate to their grade level. Given the comments of the Grade 6 students, the level-appropriateness of the activities, in other words, their gradual nature made comprehension easier. Additionally, although some activities were found relatively easier and others relatively more difficult, students’ feelings of competence figured in their statements, ‘they were not very hard, nor very easy. I mean, on the one hand the reason they are hard because they are very complex activities. For instance, the teacher gave us a problem to solve. Besides, the reason it wasn’t very easy because teacher did not explain everything. We had to think’. Care was taken to make sure that the activities were not complicated; in other words, after the students were given a problem, enabling students to discuss the problem and suggest solutions together was found important. Thus, by avoiding full explanations, the researcher encouraged students to think and created an expectation based on trust in students’ abilities. It can be inferred from students’ statements that the enjoyable and interesting nature of the process encouraged more participation and gave the students a chance to display their competencies, as well as skills. Some students pointed to the age-appropriateness of the program by noting that ‘Grade 4 or 5 students would not understand the tasks in the program’, whilst others commented that ‘the emotions on the Internet task, for

instance, would be more appropriate to Grade 7 students'.

Positive aspects of the program. While the students found 'the program fun in general', an analysis of the most favoured aspects of the program revealed that activities (the balanced life task, treasure hunt activity, problems arising from sharing passwords, cyber-bullying, use of social media, stress), effective visual aids (Moodle page, presentations, slide shows), and the contribution of the dramatization method for empathy were considered among the positive aspects of the program, being both fun and instructive.

The favourite activity of the students was the 'treasure hunt', where groups of students were given puzzles to solve by following clues placed in different locations around the school. The second most impressive activity was 'balanced life'. Asked to prepare a graph of the time spent on different activities on the computer, all students were given a reflection opportunity.

Students were positively affected by the activities showing that the code of behaviour on the Internet should not be different from that in daily life. Additionally, these activities were observed to raise students' awareness of topics such as the dangers of sharing passwords, the definition of cyber-bullying, 'I think the most positive thing is that it reminds and emphasizes that cyber bullying is bad. For instance, cyber-bullying such as giving a bad name or sharing a photo of someone who doesn't like it', taking more measures for safe Internet use, 'I do not communicate with strangers in some online games anymore. That was a very positive progress for me', the speed with which information spreads on the Internet, 'the fact that not all the information found on the Internet is correct', possible consequences of letting an unfamiliar

person follow oneself on social media, etc. Students also found the activity concerning how Internet use causes stress and how to cope with it useful.

It can be concluded that visual aids used throughout the program helped students get a better understanding of the aim of the program. The best-liked visual aspects of the program included ‘colour fonts on Moodle, pictures, various informative PowerPoint presentations, as well as daily life videos’.

‘Dramatization of case studies’ was found useful, particularly in terms of developing empathy, as it helped students better understand another person’s feelings by putting themselves in their shoes and re-defining situations.

Suggestions to improve the program. An evaluation of the students’ suggestions concerned the location of the program ‘more common use of the computer lab’; duration of the program; more frequent use of the treasure hunt activity; two activities at the end that were not understood well; and the use of the program in other Grade 6 classes.

It was suggested that the program be applied in all Grade 6 classes to ensure equality and raise awareness, and that by including it into the curriculum, all students who pass to Grade 6 could make use of the program ‘I think this course should be given to each class equally. We received this course only. Other students have not developed an awareness’. Three students suggested that the computer lab should be used more frequently and there should be more activities.

Two main suggestions regarding the duration of the program were given. One student suggested that ‘the program should last shorter than 10 weeks’, while another

student said ‘the program should be extended and continued in Grade 7’.

Two students commented that ‘the Pandora’s Box activity about the emotions on the Internet and the related video was not fully understood’. It was suggested ‘that the Treasure Hunt activity used in the last session, which was received very favorably, be used at other stages as well’.

Consequently, students’ statements to questions regarding their experience of the MiNDLifeResP were analyzed and grouped into five basic categories: meaningfulness of the program and awareness of a balanced life; purpose and duration of Internet use; awareness of safe Internet use; awareness of emotions and coping with stress on the Internet; and generated knowledge (see Figure 7).

As a result of the implementation of the MiNDLifeResP it can be concluded that students: increased their awareness of the need for better time planning, including Internet use, in order to have a more healthy lifestyle; caused some changes to Internet use behaviours such as sleep patterns or taking measures to ensure safe Internet use; developed their understanding regarding digital life, including online identity and behaviour towards others in cyber-bullying; facilitated meeting students’ need for autonomy, need for relatedness and need for competence through a need supportive classroom environment; gave them more experience on how to handle stress in online life problems; caused them to reflect on their role both in their real and their Internet lives.

CHAPTER 5: DISCUSSION

Introduction

In the framework of this doctoral dissertation two studies were carried out to investigate: (i) the relationships of Turkish early adolescents' need satisfaction, coping, online mindfulness and awareness of responsible Internet use to PIU; (ii) the effectiveness of a small scale preventive program of PIU on Turkish adolescents' Internet use. In this chapter, an overview of each study is presented and the major findings are summarized and discussed. Implications for practice and further research, as well as limitations, are also presented at the end of the chapter.

Overview of the studies

Study 1

The goal of the Study 1 was to examine the extent to which early adolescents' coping strategies in stressful situations and their mindfulness during online engagement mediates the relationship between need satisfaction in real life and PIU. In conjunction with this goal, the Study 1 aimed to test the reliability of the measures for the assessment of coping, mindfulness, online persona, PIU and need satisfaction with Turkish urban middle school students, as these measures were going to be used in Study 2. For the purposes of Study 1, a cross-sectional design was selected to test the following hypotheses:

1. Adolescent's need satisfaction in real life would be positively correlated with active coping and negatively correlated with avoidant coping;
2. Active coping would be positively and avoidant coping negatively related to

mindfulness during engagement in Internet activities;

3. Active coping would be positively and avoidant coping negatively related to mindfulness during engagement in Internet activities through it to PIU;
4. Need satisfaction in real life would be negatively related to PIU via avoidant coping and low mindfulness in online activities.

A total of 165 students (M_{age} = 12.88, *SD* = .83; 49.1% females) from sixth to eighth grades from a Turkish urban middle school participated in the study. The quantitative data in Study 1 were analysed in a preliminary stage using descriptive statistics, and bivariate correlations of the measured variables, including problematic Internet use, responsible Internet use, need satisfaction, and coping strategies. MANOVA was also used to test for gender differences. In the main stage, a Path analysis was performed to investigate the mediation of coping and mindfulness in the relation of need satisfaction to PIU.

Study 2

The purpose of Study 2 was twofold. The first aim was to design a small-scale prevention program based on mindfulness in online engagement, awareness of probable outcomes in online behaviours, satisfaction of psychological needs, and comprehensive understanding of active coping strategies. The second aim was to implement the designed Mindful and Need-supportive Digital Life Responsibility Program (MiNDLifeResP) with non-risk Turkish students in a Turkish urban middle school to test its effectiveness in preventing PIU.

Based on these purposes, a quasi-experimental design was adopted in Study 2, where both quantitative and qualitative data collection techniques were used. The quasi-

experimental design included a pre-test assessment for experimental and control groups, program implementation for the experimental group, post-test assessment for experimental and control groups, and follow-up assessment for both groups within one month of the post-test. The research encompassed 40 6th grade students of whom 11 males and 9 females belonged to the experimental group, and 12 males and 8 females belonged to the control group.

In the pre-test, post-test and follow up assessments, PIU, responsible Internet use (RIU: online mindfulness and online persona), coping strategies, and psychological needs, as well as frequencies of daily Internet use and limitations in Internet use, were assessed in the experimental and the control group. The intervention, MiNDLifeResP, was implemented over 10 weeks in the experimental group. As part of the post-test, interviews were performed with the experimental group regarding students' experience and perceptions of the benefits of the implemented program. The students in the experimental group and the researcher kept diaries during the intervention. In addition, parents of the experimental group reported their perceptions of their children's Internet use behaviour in pre- and post-tests. The hypotheses of Study 2 were the following:

1. In the pre-test, experimental and control groups will not differ regarding students need satisfaction in real life, coping, RIU and PIU.
2. In the post-test, the experimental group will have higher need satisfaction in real life, active coping and RIU as well as lower avoidant coping and PIU compared to the control group.
3. In the pre-test, experimental and control groups will not differ in time spent on the Internet.

4. In the post-test, the experimental group will spend less time on Internet compared to the control group.
5. During the implementation of the MiNDLifeResP, the experimental group will be improving from session to session regarding their perceived need support and need satisfaction.
6. In the post-test, students in the experimental group will be able to identify:
    a. Aspects of the MiNDLifeResP that were meaningful for their daily life,
    b. Need-supportive experiences during the Program,
    c. Positive or negative aspects of the Program, and,
    d. Aspects that can be further improved in the future.

The quantitative data in Study 2 were analysed in a preliminary stage using descriptive statistics, and bi-variate correlations for the pre-test, post-test and follow-up assessed variables. MANOVA was also used to test for gender differences. In the main analyses, a two-way repeated measures ANOVA and a cross tabulation analysis was used. Additionally, a one-way repeated measure ANOVA was used for students' diaries, and a paired-sample t-test was used to compare parents' reports about their children's time spent on Internet in the pre-test and post-test. Also, an independent sample t-test was used to compare the students' perception of need satisfaction in their quantitative diaries and the researcher's perception of her need supportive style in her quantitative diary. Content analysis was performed on the qualitative data obtained through individual interviews with experimental group students. Content analysis was also performed on the qualitative data obtained from the researcher's reflection diary.

Major findings and conclusions

Study 1

The purpose of Study 1 was to investigate whether early adolescents' coping strategies and online mindfulness can serve as an explanatory mediating mechanism that links non-risk early adolescents' need satisfaction with PIU.

The findings showed that need satisfaction in real life was positively and negatively related to active and avoidant coping, respectively, supporting Hypothesis 1 as well as theoretical models suggested by Weinstein et al. (2011) and Ntoumanis et al. (2009). It seems that when adolescents have a sense of being effective, are able to choose freely and are connected to others in their real life, they use active coping strategies such as problem solving, or seeking social support. In contrast, when they experience less need satisfaction in real life, they use, to a higher extent, avoidant coping strategies such as self-blaming, wishful thinking, or ignoring problems.

Moreover, avoidant coping was negatively related to online mindfulness, indicating that, when adolescents use more avoidant coping strategies, they are not fully aware of their present environment or themselves, and do things in an automatic mode. This finding partially supports Hypothesis 2 as active coping was not related to mindfulness. It is true that in Weinstein et al.'s (2009) approach coping was found to be positively related to university students' mindfulness and was considered as an optimal coping consisting of active coping, acceptance, positive re-interpretation and growth. However, it can be said that, with the exception of active coping, all the other aspects of approach coping in the Weinstein et al. (2009) study were conceptually related to awareness of the present situation and therefore related to mindfulness. Optimal coping as the two aspects of active coping, namely problem-

solving and social support in stressful situations are taken into consideration in Study 1. As these two aspects are coping strategies focusing on altering the stressful situation, they appear to be more outcome- and future-oriented strategies that do not necessarily require a mindful touch with the present moment. This could explain why active coping was not related to mindfulness in this study.

The findings of the Study 1, concordant with Hypothesis 3, showed that lower levels of mindfulness during Internet use partially mediated the relationship between increased avoidant coping and PIU, while avoidant coping was also directly and positively related to PIU. When mindfulness during Internet engagement was low, more avoidant coping was linked to more PIU. More interestingly, this study showed that low need satisfaction in early adolescents' real life was positively related to PIU through high avoidant coping and low online mindfulness. This finding supports Hypothesis 4 and has considerable implications for designing interventions for prevention of PIU.

The findings of Study 1 suggest that adolescents' need satisfaction can also be the major objective for preventive programs at school that deal with PIU. For adolescents high in avoidant coping strategies, Internet applications could seem a means to handle stress. Therefore, increasing pupils' awareness of how avoidant strategies affect an individual's well-being could be the aim for a socio-emotional development curriculum at school.

Study 2

The main objectives of Study 2 was (i) to design a small-scale prevention program based on the satisfaction of students' psychological needs, exploration of active coping strategies, mindfulness in online engagement, and awareness of consequences

in online behaviours, and (ii) to investigate the effectiveness of the MiNDLifeResP on non-risk early adolescents' needs satisfaction, coping strategies, responsible Internet use (RIU: online mindfulness and online persona), and PIU.

The MiNDLifeResP had four components which corresponded to sets of strategies to satisfy students' need for autonomy, competence and relatedness as well as to develop students' adaptive coping, online mindfulness, and responsible Internet use.

The findings show that experimental and control groups did not differ regarding students need satisfaction in real life, coping, RIU, PIU and time spent on Internet in the pre-test, supporting Hypothesis 1 and 3. At the beginning of the program, both groups had the same level of need satisfaction, coping, RIU and PIU with no statistically significant differences. It is important to highlight that the mean score of PIU for both groups was much lower compared to the mean score of PIU assessed with the same instrument, when compared to university students in Turkey[1] (Ceyhan & Ceyhan, 2007; Ceyhan, Ceyhan, & Kurtyılmaz, 2012; Odacı & Çelik-Berber, 2013). This result indicates that students in both experimental and control groups were already low in PIU before the implementation of the program. On the other hand, the findings of Study 2 showed that the experimental group did not have either statistically significant higher need satisfaction in real life, active coping and RIU, or statistically significant lower avoidant coping, PIU and time spent on Internet compared to the control group in the post-test, contravening Hypothesis 2 and 4. Experimental group parents supported this finding as their report about their child's PIU, RIU and time spent on Internet in the pre-test and post-test did not statistically

[1] For the experimental group M_{PIU} = 47.90, *SD* = 18.94 while for the control group M_{PIU} = 47.37, *SD* = 15.82. In Ceyhan & Ceyhan (2007) M_{PIU} = 64.12, *SD*=20.38 for males, M_{PIU} = 57.20, *SD*=17.54 for females; and in Ceyhan, Ceyhan & Kurtyılmaz (2012) M_{PIU} =57.53, *SD* = 17.57, while in Odacı and Çelik-Berber (2013) M_{PIU} = 88.24, *SD* = 47.89.

differ. It seems that the intervention program did not have the expected impact on need satisfaction, coping, RIU and PIU of the experimental group.

This finding is partially consistent with Chibnall et al.'s (2006) experimental study which found that the i-SAFE curriculum did not provoke changes to participating students regarding responsible Internet use. In contrast, Peker (2013) found that the implementation of a human values-oriented psycho-training programme did decrease problematic Internet use and cyber-bullying to students at-risk.

Regarding changes in coping strategies as a result of an intervention program, Frydenberg et al. (2004) found that the Best of Coping Program (BOC; Frydenberg & Brandon, 2002) was more effective in terms of provoking adaptive changes in coping strategies to students at risk than to resilient students in their studies. On the other hand, the Coping Power Program (Lochman et al., 2002), which was implemented with at risk students in 34 sessions over a long period of 15 months, did positively affect students' optimal functioning.

Regarding the programs designed to improve mindfulness, the Learning to BREATHE (Broderick & Metz, 2009) did increase students' mindfulness in a short period of six weeks and the same was true for other mindfulness-based cognitive therapy programs (see Semple et al., 2010).

The findings of the present study and the literature review show that programs aiming to contribute to responsible Internet use and adaptive coping, or to less PIU, do not affect adolescents that are not at risk. In the present study, the participants in both the experimental group and the control group came from the general population of Turkish early adolescents and not from a clinical one. Moreover, participants'

parents had high socio-economic status, the majority of them having a university degree, probably providing their children with a stimulating family environment. Therefore, the effects of the MiNDLifeResP may not have translated into lower means on PIU, time spent on Internet, RIU or avoidant coping [which were low in any case from the beginning of the program compared to other Turkish samples (see for example Ceyhan & Ceyhan, 2007; Ceyhan, Ceyhan, & Kurtyılmaz, 2012; Odacı & Çelik-Berber, 2013)]; however, Program effects may have translated into changes in their perceptions about the necessity of a balance between online and offline life or changes regarding the purpose of using the Internet instead of decreasing the spent time. High online engagement is not always problematic (Tzavela et al., 2015). Many learning platforms have been based on ICT and students use them extensively. The purpose, therefore, of Internet use should be taken into consideration when the time aiming to decrease time spent on Internet use.

Regarding mindfulness, programs that practice only self-awareness seem to be effective in developing mindfulness. However, in the MiNDLifeResP implemented in the present study, self-awareness was practiced in parallel with other qualities, such as need support, adaptive coping and responsible Internet use, for a short period of time (10 sessions in 10 weeks) and probably this fact prevented intensive work on all the targeted qualities. Especially regarding the satisfaction of participants psychological needs in real life, an exposure to 10 need supportive sessions in the MiNDLifeResP was not sufficient to satisfy adolescents' psychological needs in other domains (e.g. family and school) and, therefore, to provoke changes in their general need satisfaction. It seems that an increase in adolescents' general need satisfaction demands a holistic intervention that would also educate parents and

teachers in a need-supportive approach. A whole-school approach was implemented successfully by Ayas (2008) to prevent bullying amongst primary and middle school students, showing promising results for such holistic interventions.

Findings related to Hypothesis 5 show that students' perception about the researcher's need support statistically increased in the last three sessions of the intervention when compared to the first three sessions. They also show that students' need satisfaction was higher in the last three sessions when compared to the first three ones, supporting Hypothesis 5. The researcher's quantitative diary also provided evidence of a high need supportive environment as her perception of her need supportive style did not statistically differ from the students' assessment.

As students' need satisfaction increased at the end of the program, which was mirrored by students' perception of the researcher's need supportive style, it seems that the need supportive component of the program was successful. The empathetic attitude adopted by the researcher, the acceptance of students' opinions, and the avoidance of criticism, as well as offering choices to students regarding their assignments or group mates, providing rationales and integrating fun elements in the activities, were successful strategies to fulfil students' need for autonomy. The structure can similarly be considered effective that the researcher created in her intervention to support students' need for competence by overviewing the purpose of each session and the upcoming activities, providing informational feedback and encouraging effort and persistence. Moreover, the consideration of students' need for relatedness that, up to now, had not been considered by any other intervention aiming to create a need supportive environment, likewise proved to be effective. By supporting cooperation and group work and providing individualized support to

students in need, as well as listening carefully to them and being responsive, the researcher supported students' need for relatedness.

In the researcher's reflective diary, facilitative and challenging aspects in terms of students' participation in the programs activities were reported. Factors which facilitated the researcher's intervention included the use of audio-visual aids (viz. thought-provoking videos, attractive photos, audio narration, interactive Moodle page, and interesting presentations), assigning a volunteer teaching assistant role, permitting students to freely choose their group members in group work, the use of drama, and the use of places other than their classroom to carry out activities. As for the difficulties in implementation reported by the researcher, time management and classroom management (student behaviours that required special attention) were indicated, as well as assigning group members for a group work, the implementation of the intervention during computer course hours, and some divergent gender attitudes.

The findings of Study 2 also showed that the students in the experimental group were able to identify in the post-test aspects of the MiNDLifeResP that were meaningful for their daily life, need-supportive experiences during the Program, positive or negative aspects of the program, and aspects that can be further improved in the future, supporting Hypothesis 6. Regarding the meaningful aspects of the program, the following themes were identified in students' statements: increased awareness of the importance of a balanced life in terms of planning the time spent in real and online activities, as well as awareness of the consequences of time spent on the Internet in accordance with the purpose of Internet use; awareness of safe Internet usage; self-awareness and active coping on the Internet; and generated knowledge

regarding students' digital footprint, how emotions are spread on the net, the scope of crime in cyber-bullying, and the meaning of a balanced life. The students also stated that their psychological needs were satisfied during the implementation by the researcher's need supportive style. Additionally, positive aspects of the program were reported such as the content of some activities (the balanced life task, treasure hunt activity, problems arising from sharing passwords, cyber-bullying, use of social media, stress), the effective visual aids (Moodle page, presentations, slide shows), and the use of drama in some sessions. It is noteworthy that the positive aspects identified by the students were identical to three of the facilitating factors in the program reported by the researcher in her reflective diary, showing the students' experience during implementation reflected well the researcher's experience. Finally, the students made suggestions about the future implementation of the program, viz. the computer lab should be the location of the program and the duration of the program should be longer. They also suggested the use of active tasks such as the treasure hunt activity, and applying the program across all Grade 6 classes.

The content analysis of the student interviews showed that, while the experimental group students did not reduce their PIU or time spent on the Internet (as they were already low when the program started) and did not report higher active coping, higher mindfulness or lower avoidant coping in the post-test when compared to the control group, they did report that the program encouraged them to think about the value of a balanced life and a responsible and purposeful Internet use. They also reported that the program provided them with experience in perceiving their feelings and how to handle stress in online life problems. According to social cognitive

approaches to the prevention of negative patterns of behavior (such as PIU), social cognition (perceptions, intentions, goals and self-efficacy) is the major targeted variable to change (Bandura, 2004). In this framework, according to the results of the content analysis, the MiNDLifeResP contributed to the development of cognitions that could protect Turkish early adolescents from engagement in PIU.

Implications for practice

The findings of the present studies might have significant implications for educational practice. As Study 1 suggested, high adolescents' need satisfaction, low avoidant coping strategies and high online mindfulness can be protective factors for adolescents so as not to develop PIU. But, who is responsible for cultivating these protective factors? The family and school could collaborate effectively to create a need supportive environment for adolescents to develop in. Furthermore, purposeful interventions could be organized by the school to raise awareness about the negative consequences of avoidant coping and to cultivate a mindful touch with the present moment. The literature reveals that the implementation in school settings of mindfulness-based practices is associated with increased resilience and mitigated risk factors (Gueldner & Feuerborn, 2016); and, enhanced attentional and emotional self-regulation and coping capacity (Meiklejohn et al., 2012). Therefore, through conducting interventions in schools aimed at increasing mindfulness in general and online mindfulness specifically, PIU (and probably other addictive uses related to lack of executive control and impulsivity) in adolescents can be prevented.

As regards the findings of Study 2, the implemented form of the MiNDLifeResP did not prove very successful in increasing RIU and decreasing avoidant coping for not-at-risk adolescents. However, it proved successful in forming positive cognitions for

students regarding harmonious Internet use, active coping, and awareness of the present moment. Moreover, the need supportive component of the MiNDLifeResP proved successful in terms of students' need satisfaction during the intervention sessions. Taking these findings together, the MiNDLifeResP can be a guide for Turkish school communities regarding interventions which they can design to develop positive cognitions for harmonious Internet use and need supportive environments. The activities of the program can be adapted to the specific needs of each particular Turkish school and implemented by counsellors and teachers. Furthermore, new similar activities can be created in an attempt to develop an outreach educational material for Turkish middle and high schools that can be integrated into any subject matter, creating a culture of harmonious Internet use.

The development of positive attitudes toward the protection of the environment or healthy eating attitudes are well recognized necessities in the Turkish educational system, as is clear from Akman et.al. (2010), and Toruner, Ayaz, Altay, Citak and Sahin (2015). However, there is no reference in the Turkish curriculum to interventions for harmonious Internet use, probably because no research has tested such interventions. The MiNDLifeResP constitutes a proposal for the Turkish education policy makers, indicating that preventive interventions that combine a need supportive environment with the development of active coping strategies, responsible Internet use and online mindfulness, can contribute to early adolescents' positive cognition for Internet use and their need satisfaction.

As far as the successful need supportive component of the MiNDLifeResP is concerned, implications can be integrated into any teacher's or counsellor's instructional behaviour. The MiNDLifeResP shows them that they can support

adolescents need for autonomy by permitting students to express their opinion through cooperative activities, by accepting students' view and developing empathy towards them, by providing choices to them and a rationale for the classroom activities, as well as including fun elements in tasks. In addition, the teachers and counsellors can reflect on strategies to create a structured learning environment through providing information about the purposes and content of the class activities, as well as criteria for students' effective participation. The researcher in the present study supported her students' need for competence through such approaches. Finally, and more importantly, students' need for relatedness cannot be ignored. Group work, on the one hand, and individualized support related to tasks, on the other, are both important for adolescents' sense of belongingness. Moreover, being caring with the students, listening carefully to them, responding to their questions, and acknowledging their perspectives are supportive approaches for students' need for relatedness.

In conclusion, the present study and the MiNDLifeResP provide important guidelines to policy makers, school counsellors, educators and the school community in general regarding appropriate instructional strategies and activities to enhance adolescents' optimal functioning, well-being and harmonious Internet use. It is also suggested that in intervention programs to prevent PIU in not-at-risk adolescents, the objectives should be focused on changes in cognition rather than on quantitative indicators of PIU.

Implications for further research

The two studies reported in this thesis have implications for further research. Regarding the findings of Study 1, further diary studies could be designed to

investigate the day-to-day relation of adolescents' need satisfaction to PIU through coping strategies and mindfulness, so as to capture any possible variations in the relationships found in Study 1. Quantitative data from such diary studies can be combined with qualitative data regarding adolescents' experiences that could cause variations in the observed relationships. Further research is also needed regarding the relation of active coping to mindfulness. The relation of different types of adaptive coping to mindfulness could be investigated to clarify whether some types are more facilitative for concentration on the present moment and executive control.

Regarding the findings of Study 2, future research could implement a revised and more extensive version of the MiNDLifeResP. Students' suggestions and the researcher's feedback in her reflective diary could be taken into consideration in any revision. Moreover, the revised version of the MiNDLifeResP could be implemented with a larger sample and a sufficient number of classes to permit investigation of changes at the student, the classroom, or the school level. Related to expected changes during a larger implementation, student's cognition could be emphasized, especially when behaviour is not maladaptive. The duration of the MiNDLifeResP could be extended to cover the whole academic year so that all components of the program (i.e. need satisfaction, adaptive coping, mindfulness, and responsible Internet use) could be developed in further depth, along with consideration of the inclusion of psycho-educational approaches for parents and all teachers.

The present research presented findings on the relationship of Turkish early adolescents' need satisfaction, coping, mindfulness and awareness of consequences of online behaviours to PIU, and the effectiveness of a small scale preventive program with not-at-risk of Turkish adolescents to decrease PIU. It is recommended

that this study be replicated in other middle schools to further explore the well-foundedness of the findings.

Limitations

Study 1, a correlational study with a cross-sectional research design, did not investigate any causal relationship between the variables, viz. needs satisfaction, coping strategies, online mindfulness and PIU. Moreover, the sample was relatively small and the participants were recruited from only one middle school in an urban area of Turkey; further research is needed with a bigger sample coming from different areas of Turkey, as well as from other countries so as to see the extent to which the results can be generalized.

Study 2 is even more limited regarding the sample size as only one class, the experimental one, participated in the implementation of the MiNDLifeResP. In addition, the program was implemented in a private school in an urban area with high socioeconomic status parents and adolescents with low PIU; further research is needed with a more representative sample from different areas of Turkey, and other cultures.

A further potential limitation lies in the fact that situational need satisfaction specific to the educational environment was not assessed in the pre-, post- and follow-up tests. Furthermore, the data, collected using self-reports and the responses from early adolescents, even though anonymous, could possibly have been affected by social desirability.

Conclusion

The primary purpose of the present study is to investigate the relationship of Turkish early adolescents' need satisfaction, coping, mindfulness and awareness of consequences of online behaviours to problematic Internet use (PIU), and to test the effectiveness of a small scale preventive program on Turkish adolescents' PIU. For this purpose, two studies were carried out.

The goal of the Study-1 was to examine the extent to which early adolescents' coping strategies in stressful situations and their mindfulness during online engagement mediates the relationship between need satisfaction in real life and PIU. In conjunction with this goal, the Study-1 aimed to test the reliability of the measures for the assessment of coping, mindfulness, online persona, PIU and need satisfaction with non-risk Turkish urban middle school students, as these measures were going to be used in Study-2. It was found that need satisfaction was negatively related to PIU via low avoidant coping and high mindfulness in Internet engagement.

The purpose of Study-2 was twofold. The first aim was to design a small-scale prevention program based on mindfulness in online engagement, awareness of responsible Internet use, satisfaction of psychological needs, and comprehensive understanding of active coping strategies. The second aim was to implement the designed Mindful and Need-supportive Digital Life Responsibility Program (MiNDLifeResP) with non-risk Turkish students in a Turkish urban middle school to test its effectiveness in preventing PIU.

The results of study-2 suggested that the implemented form of the MiNDLifeResP did not prove successful in increasing RIU and decreasing PIU and avoidant coping

for not-at-risk adolescents. However, it proved successful in forming positive cognitions for students regarding harmonious Internet use, active coping, and awareness of the present moment. Moreover, the need supportive component of the MiNDLifeResP proved successful in terms of students' need satisfaction during the intervention sessions.

The findings of both studies provide important guidelines to policy makers, school counsellors, educators and the school community regarding appropriate instructional strategies and activities to enhance adolescents' optimal functioning, well-being and harmonious Internet use. It is also suggested that the objectives of intervention programs to prevent PIU in not-at risk-adolescents can mostly focus on changes in cognition than on quantitative indicators of PIU.

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APPENDICES

APPENDIX A: İnternet Kullanma Alışkanlıkları ve Demografik Form

(Bu form, araştırmacı tarafından geliştirilmiştir.)

1. Cinsiyeti ( ) Kız ( ) Erkek Yaş: ..... Sınıfı: .... Tarih: .....

2. Annenin eğitimi: ( ) Doktora mezunu
( ) Yüksek lisans mezunu
( ) Üniversite mezunu
( ) Lise mezunu
( ) Ortaokul mezunu
( ) İlkokul mezunu

3.Babanın eğitimi: ( ) Doktora mezunu
( ) Yüksek lisans mezunu
( ) Üniversite mezunu
( ) Lise mezunu
( ) Ortaokul mezunu
( ) İlkokul mezunu

4. Aşağıda listelenen hangi teknolojik araçlar <u>sadece senin kullanımına ait</u>? Lütfen (x) işareti ile göster.

	Evet	Hayır	İnternete bağlı	İnternete bağlı değil
Cep telefonum var.				
Diz üstü veya masa üstü bilgisayarım var.				
Tabletim var.				
Oyun konsolum var.				
Diğer (Lütfen açıklayınız):				

5. Aşağıdaki Internet uygulamalarından hangilerini kullanmaktasın? Hangi uygulamalarda hesabın olduğunu ve en çok kullandığın 5 uygulamayı (x) işareti ile göster.

6.

	Evet hesabım var	Evet yanıtını verdiğin uygulamalardan en çok kullandığın 5 uygulamayı işaretle
e-posta adresim var.		
Facebook hesabım var.		
Twitter hesabım var.		
Snapchat hesabım var.		
Tumblr hesabım var.		
Google plus hesabım var.		
Instagram hesabım var.		
Vine hesabım var.		
Pinterest hesabım var.		
WhatsApp hesabım var.		
Viber hesabım var.		
Tango hesabım var.		
Line hesabım var.		
Skype üzerinden video görüşmeleri yapmak için hesabım var.		
Anonim kullanılan "Ask.Fm" gibi uygulamalarda hesabım var.		
Bir "blog"um var.		
Bir Internet sitesi kurdum.		
İnternette "forum" sitesi açtım veya bir forum sitesine üyeyim. Lütfen ne olduğunu yazınız		
Diğer (Lütfen açıklayınız): ……		

7. İnterneti <u>çoğunlukla</u> hangi amaçlar için kullanıyorsun? <u>En önemli 5 amacını</u> lütfen (x) işareti ile göster.

Film-dizi izlemek veya indirmek	
Sosyal medyayı takip etmek (Örn: Facebook, twitter, whatsapp, …)	
Okul işleri, ödevlerini yapmak	
Oyun oynamak	
Online yazılı mesajlaşmak (Örn: Whatsapp, facebook, skype mesajlaşma,)	
Müzik dinlemek veya indirmek	
e-posta iletişimi	
Online sesli konuşmak (Örn: Tango, viber, whatsapp, ….)	
Video görüntülü sohbet etmek (Örn: Skype, facetime, line …)	
Blogta yazmak veya web sitesi hazırlamak	
Forum sitelerine ulaşmak	
Yeni insanlarla tanışmak	
İlgi duyduğum konuları araştırmak	
Video paylaşmak (Örn: Youtube, snapchat, facebook, ….)	
Diğer (Lütfen açıklayınız)……..……..	

8. İnterneti hafta içi ne sıklıkla kullanıyorsun?

( ) İnterneti her gün kullanıyorum. Günlük ..…… saat kullanıyorum.
( ) İnterneti her gün kullanmıyorum. Haftada ortalama ……. saat kullanıyorum.

9. İnterneti hafta sonları veya tatillerde ne sıklıkla kullanıyorsun?

( ) 30 dk – 1 saat ( ) 1-2 saat ( ) 2-3 saat ( ) 3-4 saat ( ) 4-5 saat
( ) 5-6 saat ( ) 6-7 saat ( ) 7-8 saat ( ) 8-9 saat ( ) 9-10 saat
( ) 10-11 saat ( ) 11-12 saat ( ) 12-13 saat ( ) Diğer (Lütfen yazınız:…)

10. **Evdeki Internet kullanımında ailenin ya da senin belirlediğin kullanım sınırlaması var mı?**

( ) Hayır, Internet kullanımımda bir sınırlama yok.
( ) Evet, Internet kullanımımda bir sınırlama var ve uyguluyorum.
( ) İnternet kullanımımda bir sınırlama var ama ben uygulamıyorum.

APPENDIX B: Problemli İnternet Kullanımı Ölçeği-Ergen Formu

(Ceyhan & Ceyhan, 2009)

Aşağıdaki ifadeleri okurken, Internet kullandığınızda genellikle gösterdiğiniz davranışları düşününüz. Her bir ifadenin karşısındaki **"Tamamen Uygun", "Oldukça Uygun", "Biraz Uygun" "Çok Uygun Değil",** ve **"Hiç Uygun Değil"** seçeneklerinden kendi durumunuza uygun olan bir seçeneği belirleyiniz. Bu seçeneği belirledikten sonra o seçeneğe ait kutunun içerisine çarpı (X) işareti koyunuz.

İfadeler	Hiç uygun değil	Çok uygun değil	Biraz uygun	Oldukça uygun	Tamamen uygun
<u>İnternetin olumsuz sonuçları</u>					
İnternette, kontrol benden çıkıyor.	1	2	3	4	5
İnternet yüzünden yemek yemeyi unuttuğum zamanlar oluyor.	1	2	3	4	5
İnternette daha fazla vakit geçirmek için günlük işlerimi ihmal ediyorum	1	2	3	4	5
Sosyal aktiviteler için para harcamaktansa Internete erişmek için harcamayı tercih ediyorum.	1	2	3	4	5
Sürekli ziyaret ettiğim Internet sitelerine bir gün dahi girememeye tahammül edemiyorum.	1	2	3	4	5
İnternet kullandığım süre boyunca herşeyi unutuyorum.	1	2	3	4	5
Yapmam gereken işler çoğaldıkça, Internet kullanma isteğim de o ölçüde artıyor.	1	2	3	4	5
İnternet, yapmam gerekenleri ertelemek için vazgeçilmez bir araçtır.	1	2	3	4	5
İnternet kullanımım, benim için önemli kişilerle olan ilişkilerimde problem yaşamama neden oluyor.	1	2	3	4	5
İnternet kullanırken başkalarının beni meşgul etmesine öfkeleniyorum.	1	2	3	4	5
İnterneti kullanmasam bile sürekli aklımda.	1	2	3	4	5
İnternet kullanmayı bırakamadığım için randevularıma veya derslerime geç kalıyorum.	1	2	3	4	5
Sabahları uyandığımda bir an önce Internete bağlanmak istiyorum.	1	2	3	4	5
İnternet beni kendisine esir ediyor.	1	2	3	4	5
<u>Aşırı kullanım</u>					
İnternet bağlantımı kesmeye her karar verdiğimde kendi kendime "birkaç dakika daha" diyorum.	1	2	3	4	5
İnternette geçirdiğim zaman çoğunlukla uyku süremi azaltıyor.	1	2	3	4	5
Çok istememe rağmen Interneti uzun süre kullanmaktan bir türlü vazgeçemiyorum.	1	2	3	4	5
İnternete gerekmedikçe girmekten kaçınıyorum.	1	2	3	4	5
Planladığımın dışında fazladan bir dakika bile Interneti kullanmıyorum.	1	2	3	4	5
İnternet kullanırken zamanın nasıl geçtiğini hiç anlayamıyorum.	1	2	3	4	5

Sosyal fayda / Sosyal rahatlık					
İnternet ortamında elde ettiğim saygıyı günlük yaşamımda bulamıyorum.	1	2	3	4	5
İnternette, diğer ortamlara göre daha kolay ilişki kuruyorum.	1	2	3	4	5
İnternette ismimi gizlemek beni daha özgür kılıyor.	1	2	3	4	5
Yalnızlığımı Internetle paylaşıyorum.	1	2	3	4	5
Birisi Internette ne yaptığımı sorduğunda savunmacı ve gizleyici oluyorum.	1	2	3	4	5
İnternette bağlantı kurduğum insanlara kendimi daha iyi anlatıyorum.	1	2	3	4	5
İnternet yoluyla iletişim kurmayı, yüzyüze iletişim kurmaya tercih ediyorum.	1	2	3	4	5

APPENDIX C: İnternetin Sorumlu Kullanımı Ölçeği

(İnternet Kullanımında Öz-farkındalık alt ölçeği Brown & Ryan (2003) tarafından geliştirilmiştir. Çevrimiçi Karakter alt ölçeği araştırmacı tarafından geliştirilmiştir.)

Aşağıdaki ifadeleri okurken, Internet kullandığınızda genellikle gösterdiğiniz davranışları düşününüz. Her bir ifadenin karşısındaki **"Tamamen Uygun", "Oldukça Uygun", "Biraz Uygun" "Çok Uygun Değil",** ve **"Hiç Uygun Değil"** seçeneklerinden kendi durumunuza uygun olan bir seçeneği belirleyiniz. Bu seçeneği belirledikten sonra o seçeneğe ait kutunun içerisine çarpı (X) işareti koyunuz.

İnternet Kullanımında Öz-farkındalık	Hiç uygun değil	Çok uygun değil	Biraz uygun	Oldukça uygun	Tamamen uygun
İnternet kullanırken, belli bir süre farkında olmadan bazı duyguları yaşayabiliyorum.	1	2	3	4	5
İnternet kullanırken, o anda olan bitene odaklanmakta zorlanıyorum.	1	2	3	4	5
İnternet kullanırken, kendimi, dikkatimi vermeden birşeyleri yaparken buluyorum.	1	2	3	4	5
İnternetteki aktiviteleri gerçekte ne olduklarına dikkat etmeden acele ile yaparım.	1	2	3	4	5
İnternet kullanırken, yaptığım şeyi farketmeden otomatiğe bağlanmış gibi yapıyorum.	1	2	3	4	5
İnternet kullanırken vücudumdaki gerginliği ya da rahatsızlık içeren duyguları, gerçekten dikkatimi çekene kadar fark etmeme eğilimim vardır.	1	2	3	4	5
Çevrimiçi karakter					
Arkadaşımın habersiz çektiğim fotoğraflarını şaka yapmak için sosyal medyada paylaşmamda bir sakınca yoktur.	1	2	3	4	5
WhatsApp gibi gruplarda Internette birine lakap takarak yazışmakta bir sakınca yoktur.	1	2	3	4	5
Şifremi arkadaşıma vermezsem benimle eskisi kadar iyi arkadaş olmaz.	1	2	3	4	5
Youtube veya Snapchat gibi video paylaşımı yapan uygulamalarda bir arkadaşımdan gelen görüntüyü diğer arkadaşlarıma göndermemde bir sakınca yoktur.	1	2	3	4	5
İnternette arkadaşlarıma hoşlanmayacakları isimler takmak eğlencelidir.	1	2	3	4	5
Bir arkadaşımın şifresini kullanarak sosyal medyadaki herhangi bir fotoğrafı beğenebilirim.	1	2	3	4	5
Günlük yaşamda kullanmadığım sözcükleri, arkadaşlarımla Internetteyken rahatlıkla kullanırım.	1	2	3	4	5

APPENDIX D: Temel İhtiyaçlar Ölçeği

(Deci & Ryan, 2000; Cihangir-Çankaya & Bacanlı, 2003)

Aşağıda, kişilerin ihtiyaçlarını doyurma biçimlerine dair bazı ifadeler verilmiştir. Her bir ifadeyi okuduktan sonra, "1=Hiç uygun değil" ile "5=Tamamen uygun" ifadeleri arasından size uygun olanını çarpı (x) ile işaretleyiniz.

İfadeler	Hiç uygun değil	Çok uygun değil	Biraz uygun	Oldukça uygun	Tamamen uygun
Özerklik					
Hayatımı nasıl yaşayacağıma karar verme özgürlüğümün olduğunu hissediyorum.	1	2	3	4	5
Hayatımda kendimi baskı altında hissediyorum.	1	2	3	4	5
Görüş ve düşüncelerimi ifade etmede genellikle kendimi özgür hissederim.	1	2	3	4	5
Günlük yaşamımda bana söylenilenleri sıklıkla yapmak zorunda kalırım.	1	2	3	4	5
Günlük yaşamımda etkileşimde bulunduğum insanlar duygularımı dikkate alırlar.	1	2	3	4	5
Günlük yaşamımda kendi benliğimi ortaya koyabildiğimi hissediyorum.	1	2	3	4	5
Günlük yaşamımda kendi kararlarımı vermek için çok fazla imkanım yoktur.	1	2	3	4	5
Yeterlik					
Kendimi çoğu zaman çok yeterli hissetmem.	1	2	3	4	5
Tanıdığım insanlar yaptığım şeylerde iyi olduğumu söylerler.	1	2	3	4	5
Son zamanlarda yeni ve ilginç beceriler öğrendim.	1	2	3	4	5
Çoğu zaman, yaptıklarımdan dolayı başarı duygusunu hissederim.	1	2	3	4	5
Hayatımda ne kadar yetenekli olduğumu gösterme şansını bulamıyorum.	1	2	3	4	5
Kendimi çoğu zaman becerikli hissetmem.	1	2	3	4	5

İlişkisellik					
Etkileşimde bulunduğum insanlardan gerçekten hoşlanıyorum.	1	2	3	4	5
Etkileşimde bulunduğum insanlarla iyi geçinirim.	1	2	3	4	5
Daha çok kendi başımayımdır ve çok fazla sosyal etkileşime girmem.	1	2	3	4	5
Düzenli olarak etkileşimde bulunduğum insanları arkadaşım olarak görürüm.	1	2	3	4	5
Hayatımdaki insanlar benimle ilgilenirler.	1	2	3	4	5
Yakın olduğum çok fazla insan yok.	1	2	3	4	5
Düzenli olarak etkileşimde bulunduğum insanlar benden hoşlanmıyor gibi gözüküyor.	1	2	3	4	5
Genellikle insanlar bana karşı oldukça dostane davranır.	1	2	3	4	5

APPENDIX E: Başa Çıkma Stratejileri Ölçeği

(Amirkhan, 1990; Aysan, 1994)

Aşağıdaki çalışmada bireylerin yaşamlarında sorunlarla nasıl başa çıktığı belirlenmeye çalışılmaktadır. Aşağıda çeşitli başa çıkma yolları verilmiştir. Sizden bunları ne derece kullandığınızı belirtmeniz istenmektedir. Geçtiğimiz altı aylık süre içerisinde karşılaştığınız bir problemi düşünmeye çalışın. Bu problemin sizin için önemli olup kaygılanmanıza neden olması gerekiyor. Sevdiğiniz bir kişiyi kaybetmekten, öğretmeninizin sizi uyarmasına kadar herşey olabilir, fakat bunun sizin için ÖNEMLİ olması gerekmektedir.

Bu problemi aklınızda tuturak (ya da alttaki boşluğa yazarak) nasıl başa çıktığınızı sizin için en uygun kutuyu işaretleyerek belirtiniz. Bazı sorular benzer olsa da lütfen her bir maddeyi işaretleyiniz.

.....

O stresli olayı aklınızda bulundurarak ne dereceye kadar,

İfadeler	Hiç	Biraz	Çok
<u>Problem çözme</u>			
Probleminizi en iyi şekilde çözümlenmesi için çevrenizdeki şeyleri yeniden düzenlediniz?	1	2	3
Ne yapacağınıza karar vermeden önce bütün olası çözümleri aklınızda tartıştınız?	1	2	3
Durumla baş edebilmek için kendinize bazı amaçlar belirlediniz?	1	2	3
<u>Sosyal destek arama</u>			
Duygularınızı bir arkadaşınıza açtınız?	1	2	3
Herhangi bir kimsenin size sempati ve anlayış göstermesini kabul ettiniz?	1	2	3
<u>Kaçınma</u>			
Aklınızı problemlerden uzaklaştırmaya çalıştınız?	1	2	3
Yaşadığınız şeylerin gerçekten ne kadar kötü olduğunu görmemek için elinizden geleni yaptınız?	1	2	3

APPENDIX F: Parents' Perceptions of Their Children's Internet Use Behaviours

Değerli Velimiz,

İnternet kullanımına yönelik öğrencilerimizin farkındalıklarını artırmak amacıyla hazırlanan Sanal-Dijital Yaşam Sorumluluk Programı'nı 07.12.2015 tarihinde tamamladık. On haftalık sürede çocuklarınızla birlikte çalışmaları yürütmek, öğrenmenin mutluluğunu karşılıklı yaşamak açısından anlamlıydı.

Teknolojiyi kullanırken neyi neden yaptığını sorgulayan sorumlu Internet kullanıcısı gençler yetiştirmeyi hedef alan programın iyileştirilebilmesi için çocuklarınızdan alınan geribildirimlerin yanısıra sizlerin görüşlerinize de ihtiyaç duymaktayım. Program uygulanmadan önce aşağıdaki bazı soruları yanıtlamıştınız. Programın tamamlanmasıyla birlikte programı değerlendirmeye ve daha iyi hale getirmeye yardımcı olmak amaçlı aşağıdaki soruları yanıtlamanızı rica ediyorum. Çocuğunuzun Internet kullanımına ilişkin gözlemlerinizi aşağıdaki sorularla yanıtlayarak 21 Aralık 2015 tarihine kadar atasalar@bilkent.edu.tr adresine gönderebilirseniz çok mutlu olurum. Çalışmada ortaya çıkan kişisel bilgiler ve veriler hiçbir şekilde üçüncü şahıslarla paylaşılmayacak, sadece kodlarla gösterilecek ve gizliliğe maksimum özen gösterilecektir.

Sanal-Dijital Yaşam Sorumluluk Programı'nı çocuklarımız ve gençlerimiz için daha iyi hale getirme konusundaki değerli katkılarınız için teşekkür ederim.

Saygılarımla,

Jale Ataşalar

Eğitim Programları ve Öğretim Doktora Programı
Bilkent Üniversitesi Eğitim Bilimleri Enstitüsü

E-posta: atasalar@bilkent.edu.tr

İNTERNET KULLANMA ALIŞKANLIKLARI

Tarih:

1. **Adınız Soyadınız:**

   a. **Çocuğunuzun adı soyadı: Sınıfı: 6 / D**

2. **Çocuğunuz Interneti hafta içi ne sıklıkla kullanıyor?**

   İnterneti her gün kullanıp kullanmadığı durumuna göre 2.1 ve 2.2'yi işaretleyerek kullanılan süreyi işaretleyiniz.

2.1. İnterneti <u>her gün kullanıyor</u>. <u>Günlük</u> …… saat kullanıyor.

( ) 30 dk – 1 saat ( ) 1-2 saat ( ) 2-3 saat ( ) 3-4 saat ( ) 4-5 saat
( ) 5-6 saat ( ) 6-7 saat ( ) 7-8 saat ( ) 8-9 saat ( ) 9-10 saat
( ) 10-11 saat ( ) 11-12 saat ( ) 12-13 saat ( ) Diğer: Lütfen yazınız:

2.2. İnterneti <u>her gün kullanmıyor</u>. <u>Haftada ortalama</u> ……. saat kullanıyor.

( ) 30 dk – 1 saat ( ) 1-2 saat ( ) 2-3 saat ( ) 3-4 saat ( ) 4-5 saat
( ) 5-6 saat ( ) 6-7 saat ( ) 7-8 saat ( ) 8-9 saat ( ) 9-10 saat
( ) 10-11 saat ( ) 11-12 saat ( ) 12-13 saat ( ) Diğer: Lütfen yazınız:

3. **Çocuğunuz Interneti hafta sonları veya tatillerde ne sıklıkla kullanıyor?**

( ) 30 dk – 1 saat ( ) 1-2 saat ( ) 2-3 saat ( ) 3-4 saat ( ) 4-5 saat
( ) 5-6 saat ( ) 6-7 saat ( ) 7-8 saat ( ) 8-9 saat ( ) 9-10 saat
( ) 10-11 saat ( ) 11-12 saat ( ) 12-13 saat ( ) Diğer: Lütfen yazınız:

4. **Çocuğunuzun evdeki Internet kullanımında ebeveyn olarak sizlerin ya da çocuğunuzun belirlediği kullanım sınırlaması var mı?**

( ) Hayır, Internet kullanımında bir sınırlama yok.
( ) Evet, Internet kullanımında bir sınırlama var ve çocuğum bunu uyguluyor.
( ) İnternet kullanımında bir sınırlama var ama çocuğum bunu uygulamıyor.

5. **10 haftalık Sanal-Dijital Yaşam Sorumluluk Programı uygulama süresinde veya programın tamamlanmasından sonra çocuğunuzun Internet kullanımına ilişkin gözlemleriniz neler? Lütfen açıklayınız.**

6. **Programın çocuğunuzun günlük yaşamına bir etkisi oldu mu? Lütfen açıklayınız.**

7. **Programla ilgili önerileriniz neler? Lütfen açıklayınız.**

! Lütfen aşağıdaki bölüme devam ediniz.

<u>Aşağıdaki ifadeleri okurken, çocuğunuzun</u> <u>Internet kullandığında genellikle gösterdiği davranışları düşünmenizi istiyorum</u>. Her bir ifadenin karşısındaki **"Tamamen Uygun", "Oldukça Uygun", "Biraz Uygun" "Çok Uygun Değil",** ve **"Hiç Uygun Değil"** seçeneklerinden çocuğunuzun durumuna en uygun olan bir seçeneği belirleyiniz. Bu seçeneği o seçeneğe ait kutunun içerisindeki sayıyı yuvarlak içine alarak gösteriniz. Teşekkür ederim.

	İFADELER **Çocuğunuz...**	Hiç uygun değil	Çok uygun değil	Biraz uygun	Oldukça uygun	Tamamen uygun
1	İnternette geçirdiği zaman çoğunlukla uyku süresini azaltıyor.	1	2	3	4	5
2	Birisi Internette ona ne yaptığını sorduğunda savunmacı ve gizleyici oluyor.	1	2	3	4	5
3	İnternet yüzünden yemek yemeyi unuttuğu zamanlar oluyor.	1	2	3	4	5
4	İnternette daha fazla vakit geçirmek için günlük işlerini ihmal ediyor.	1	2	3	4	5

5	Sosyal aktiviteler için para harcamaktansa Internete erişmek için harcamayı tercih ediyor. (Gerçek yaşamdaki soyal aktiviteler yerine Interneti hızlandırmak, oyundaki bir karakteri satın almak veya oyunda seviye atlamak için para harcıyor.)	1	2	3	4	5
6	İnternet kullanımı, onun için önemli kişilerle olan ilişkilerinde problem yaşamasına neden oluyor.	1	2	3	4	5
7	İnternet kullanırken başkalarının onu meşgul etmesine öfkeleniyor.	1	2	3	4	5
8	İnternet kullanmayı bırakamadığı için randevularına veya derslerine geç kalıyor. (Bir doktor randevusu, piyano kursu veya doğum günü partisine geç kalıyor.)	1	2	3	4	5
9	Sabahları uyandığında bir an önce internete bağlanmak istiyor.	1	2	3	4	5
10	Günlük yaşamda kullanmadığı sözcükleri, arkadaşlarıyla Internetteyken rahatlıkla kullanıyor.	1	2	3	4	5
11	Sosyal medyada (WhatsApp, Facebook vb) yazdığı yazılar, yüklediği fotoğraflar veya yaptığı diğer şeyler rahatsız edici olabiliyor.	1	2	3	4	5
12	Şifresini arkadaşlarına vermezse arkadaşlarının onunla eskisi kadar iyi arkadaş olamayacaklarını düşünüyor ve şifresini paylaşıyor.	1	2	3	4	5
13	Arkadaşlarının habersiz çektiği fotoğraflarını şaka yapmak için sosyal medyada paylaşıyor.	1	2	3	4	5

APPENDIX G: Researcher's Quantitative Diary

(Adapted from LCQ, Williams & Deci, 1996; Dinçer, 2014)

How I felt the lesson ……..					
achieving to goal of the lesson	①	②	③	④	⑤
listening carefully	①	②	③	④	⑤
creating opportunities for students to practice in their own way	①	②	③	④	⑤
providing opportunities for students to participate	①	②	③	④	⑤
encouraging effort and persistence	①	②	③	④	⑤
offering hints aimed at enabling progress when pupils were stuck	①	②	③	④	⑤
being responsive to students' questions	①	②	③	④	⑤
praising as informational feedback	①	②	③	④	⑤
acknowledging students' perspectives	①	②	③	④	⑤
providing choices	①	②	③	④	⑤
time student talking	①	②	③	④	⑤

APPENDIX H: Öğrenme Ortamı Ölçeği (LCQ)

(Williams & Deci, 1996; Dinçer, 2014)

Bu bölüm, sınıf içinde dersin öğretmeniyle olan ilişkilerinizle ilgili maddeleri içermektedir. Lütfen her bir maddenin size uygunluğuna karar vererek, maddeleri 1 (*Hiç Katılmıyorum*) ile 5 (*Kesinlikle Katılıyorum*) arasında derecelendiriniz.					
Öğretmenimin dersle ilgili bana seçme fırsatı sunduğunu düşünüyorum.	①	②	③	④	⑤
Öğretmenim tarafından anlaşıldığımı hissediyorum.	①	②	③	④	⑤
Öğretmenim bu derste başarılı olacağım konusunda güven verir.	①	②	③	④	⑤
Öğretmenim beni soru sormaya cesaretlendirir.	①	②	③	④	⑤
Öğretmenim bir şeyleri nasıl yapmak istediğimi dinler.	①	②	③	④	⑤
Öğretmenim bir şeyler yapmak için yeni bir yol önermeden önce, benim onları nasıl algıladığımı anlamaya çalışır.	①	②	③	④	⑤
Ders esnasında, öğretmenime karşı kendimi açıkça ifade edebilirim.	①	②	③	④	⑤
Öğretmenimin beni olduğum gibi kabul ettiğini hissediyorum.	①	②	③	④	⑤
Öğretmenim, dersin amaçlarını anladığımdan emindir.	①	②	③	④	⑤
Öğretmenime büyük bir güven duyuyorum.	①	②	③	④	⑤
Öğretmenim sorularıma eksiksiz cevaplar verir.	①	②	③	④	⑤
Öğretmenim insanların duygularını çok iyi anlar.	①	②	③	④	⑤
Öğretmenimin, beni bir birey olarak önemsediğini hissediyorum.	①	②	③	④	⑤
Sınıftaki hislerimi öğretmenimle paylaşabilirim.	①	②	③	④	⑤

APPENDIX I: Derste Hissedilen Durum Ölçeği

(Reeve & Sickenius, 1994; Dinçer, 2014)

Bu bölümdeki maddeler dersteyken hissettiklerinizi tespit etmeye yöneliktir. Lütfen her bir maddenin size uygunluğuna karar vererek, maddeleri 1 (*Hiç Katılmıyorum*) ile 5 (*Kesinlikle Katılıyorum*) arasında derecelendiriniz.

Bu derste bulunmak,

……

dersi yapabildiğimi hissettiriyor.	①	②	③	④	⑤
kendimi bu ortama ait ve buradakilerin beni önemsediğini hissettiriyor.	①	②	③	④	⑤
bana özgür olduğum hissini veriyor.	①	②	③	④	⑤
yakın arkadaşlarımla bir arada olduğum hissini veriyor.	①	②	③	④	⑤
derse karşı yetenekli olduğumu hissettiriyor.	①	②	③	④	⑤
istediğim şeyi yapıyor olduğum hissini veriyor.	①	②	③	④	⑤
etrafımdakilere duygusal olarak yakın olduğumu hissettiriyor.	①	②	③	④	⑤
becerilerimin geliştiğini hissettiriyor.	①	②	③	④	⑤
ne yapacağıma karar vermede özgür olduğum hissini veriyor.	①	②	③	④	⑤

APPENDIX J: MiNDLifeRes Program

Session-1	**Meaning of life and cyber life** **Inquiry into real life vs. cyber life**
Suggested time	80 minutes
Objectives	to gain a general understanding of the similarities and differences between cyber life and real life. What is digital? digital immigrant, digital native, digital citizen
Materials	Computer, Internet connection, visualizer, board, colorful pens, poster paper, picture cards. Videos: The Evaluation of Technology, Welcome to the Future, 2 Minutes Science: What is digital?
Process	9 stages
Group rules and expectations (10 min)	Introduction Circle Time: Explanation of the process
The world of technology	Question: What do you know about developments in communication technology in recent years? After getting responses, video: "The Evaluation of Technology" is watched.
Questioning the meaning of 'Digital'(5 min)	Question: What does 'digital' mean? After getting responses, video: " 2 Minutes Science: What is digital" is watched.
Examples of digital life (10 min)	Question: What do you think about 'digital' life? Students are asked to make groups of 2 or 3 people. Each group is given different picture cards. Students are asked to make inferences and make conections with digital life with the pictures. The positive and negativites sides of the Internet are shared.
Inquiry and Internet Detective game (10 min)	Discussion: What do you think about the concepts of 'digital immigrant' and 'digital native'? Video: Welcome to the future https://www.youtube.com/watch?v=WnKNQKBRoow&feature=player_detailpage#t=204 Explanation about the Internet detective game and special tasks.
Group discussion (22 min)	Group A: What are similarities between 'real life' and 'cyber life? Could you give an example? Group B: What are differences between 'real life' and 'cyber life'? Example Prepare a mind map.
Summary & evaluation	Teacher summarizes the session with students. Students give feedback to the teacher through their- Feeling States ScaleDiary. Each student will give his/her diary at the end of the session.
Special tasks for Internet Detectives	Choose one specialtask: **(To be uploaded on Moodle)** a. **5 minutes is enough** ☺Conduct an interview with an aunt, uncle, or grandparent, as digital immigrants, based on their thoughts and feelings about the digital life. Video the interview. Before starting, be sure to have written permission from the person being interviewed. This is a necessary step before uploading the video on Moodle. b. **My dreams**☺ What about your dreams? Link this question to how your life will be affected by technological changes in 15 years time. Draw or write a short essay, or take a photo, or video, etc. You choose what you create!

Session-2	**My cyber identity**
Suggested timing	80 minutes
Objectives	To raise awareness of the components of cyber identity and the consequences of freedom of expression
Materials	*A story "The dog who does not know how to bark" from Gianni Rodari's "Tale into Tale", and complete an activity form. *Computer, Internet connection, board, colorful pen.
Process	7 steps
Review of previous session (5 min)	Summarize the previous session and share the objectives of the current lesson.
Inquiry into the tale (15 min)	"The dog who does not know bark" read from Gianni Rodari's "Tale into Tale". The tale has three different endings. Questions: *What happens in the tale? *Why doesn't the dog bark?? *Which ending to the tale do you like the most? Why?
Questioning the meaning of identity (10 min)	Questions: *How can a connection be made between identity and the tale? *What is identity? What are the components of our identities?" *What does "uniqueness of identity"? mean What makes us unique? List responses on the board. What is a 'digital identity'? What is a 'digital footprint'?
Group discussion (25 min)	Students choose their groups. Groups are given a scenario: The students try to help an adolescent,who is one of the character in Internet Detectives, and prepare a slogan, or poster.
My digital footprint and my responsibility on the net	Discussion about the differences and similarities between identity and digital footprint. How can we get respect on the net? Expression on the net? What does it mean?
Summary & evaluation	Teacher summarizes the session with students. The students give feedback to theacher through Activity- Feeling States Scale Diary. Each students will give this diary to the instructer end of the session.
Special tasks for Internet Detectives	Choose one of the tasks: **(to be upload on Moodle)** a. **It is time to be a writer:** Write an e-story with three different endings related to the themes of cyber identity or digital footprint. (It can be a video recording.) b. **Cartoon**: about 'digital footprint' c. **Interview:** a family member about what s/he thinks about digital life.

Session-3	**Digital life with feelings and thoughts**
Suggested timing	80 minutes
Objectives	To raise awareness of stress triggers, and recognize negative feelings on the net.
Materials	*"Pandora's Box" by Ahmet Ünver (Ahmet Ünver Ege Kıyılarından Eski Zaman Masalları Günışığı Kitaplığı, s. 19-27) *Worksheets: "Stress Triggers", "Stress Reactions", "Tracking your reactions to stress" (Egger, L. L., Nicholas, L. J., Reconnecting Youth Student Workbook. Solution Tree Press, 2004) *Board, pen, colored pictures *Video: Just shared a password!
Process	6 steps
Review of previous session (5 min)	Summarize the previous session and share the objectives of the current lesson.
Pandora's Box with an inquiry (15 min)	An audio narration - of "Pandora's Box" by Ahmet Ünver Let's assume that Pandora's Box is a digital life, or the Internet itself. Questions: *What would be inside of the digital box? *What kind of emotions would be in there? List them on board.
Raising awareness about feelings (5 min)	Circle time and questions: What is the importance of our feelings? How do feelings contribute to our life?
Negative feelings (10 min)	Group leader choose negative emotions from the list prepared by students. They could be sadness, shame, desperation, anger, revenge, etc. Redefine them as "hot feelings". Ask students: o Why are there negative feelings? How do they contribute to our lives? o What are the common specialities of negative feelings on the net? List responsess on board. To be emphasized: Emotions are a kind of a inner compass. They try to show us what is going on inside. We use some cognitive tools to determine what is happening in our lives with emotions. We will discuss them later. Hot feelings warn us that something is not going well. The important thing is to be aware of our stress level, and discriminate stress triggers. High stress is a natural response that a situation bother us led to feel negative emotions in order to rebuild balance of our body.
Scenario	Group activity: Students choose their groups.

Thoughts leading to stress (20 min)	Each group is given a scenario from Internet Detectives.
Summary & evaluation (10 min)	Video: Just shared a password! Teacher summarizes the session with students. The students give feedback to teacher through Activity- Feeling States Scale Diary. Each students will give this diary end of the session.
Special tasks for Internet Detectives	Choose one of the special tasks: **(to be uploaded on moodle)** a. **A dictionary with feelings It is time to be a writer for a famous newspaper:** Write a column to your readers about "Why is it so important to recognize and accept our feelings? What would happened if we do not have emotions?" **b. Present a feeling without words**

Session-4	**Are emotions contagious?**
Suggested timing	80 minutes
Objectives	To raise awareness about how emotions on the net are contagious.
Materials	*Presentation: Contagious emotions Video: Red Riding Hood Video: Think again while sharing!
Process	6 steps
Review of previous session (10 min)	Summarize the previous session and share the objectives of the current lesson.
Are emotions contagious? (20 min)	Questions:: *Are emotions contagious in our daily live? Could you give some examples? *What about in digital life? How are emotions contagious in social networks (Facebook, twitter, etc) particularly? Examples to be given. Presentation regarding social network and emotions Video: Red Riding Hood and Social Network
Scenarios about shame, revenge and anger (20 min)	Group discussion- students form three groups . Each group is given a script with different emotions and asked to make changes in the script like the Red Ridin Hood video. What can be done to achieve different results as Internet Detectives? Group-1: Shame Group-2: Revenge Group-3: Anger
Inquiry into rewrittenstories (10 min)	Inquiry: What should be considered when using social networks to prevent contagious emotions? Video: Think again while sharing A mind map is prepared from student responses

Summary & evaluation (10 min)	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary. Each students will send her or his e-diary to instructor.
Special tasks for Internet Detectives	There is no special task for this week ☺

Session-5	**Stress in my life**
Suggested timing	80 minutes
Objectives	To raise awareness regarding what stress means in everyday life; how you feel the stress of your body; what we do when we are stressed.
Materials	*Worksheet: Stress triggers on cyber life *Worksheet: Stress reactions Adapted from Egger, L. L., Nicholas, L. J., Reconnecting Youth Student Workbook. Solution Tree Press, 2004 *Worksheet: "What I did when I was stressed"
Process	6 steps
Remember of the last Session (10 min)	Summarize previous session and share the objectives of the current lesson.
What is stress? (15 min)	Group discussion: What is stress? What does it mean in daily life? When do we feel more stressed? Please give examples. Students use worksheet for clarifying what they do when they are stressed.
Are you aware? (15 min)	Group discussion: How do you feel the stress in your body? Discuss examples with different stress reactions
Stress triggers (10 min)	Small group discussion: What are the stress triggers in your life? What are the stress triggers depends on personal features?
Personal control (20 min)	Two group work: What is personal control ? How can we get it? How can we cope with stress in our daily life in a healthy way? What are our choices when coping with stress? List their responds on the board as a mind map.
Summary & evaluation (10 min)	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary. Each students will send her or his e-diary to instructor.
Special tasks for Internet Detectives	There is no special task for this week ☺

Session-6	**Personal control and self- regulation**
Suggested timing	80 minutes
Objectives	to raise awareness of decreasing the negative effect of stress from daily and digital life. To search for alternative solutions for them. To develop self-regulated skills to cope with the stress.
Materials	*Worksheet: Personal control *Worksheet: "Using steps to reduce stress of cyber life" Adapted from Egger, L. L., Nicholas, L. J., Reconnecting Youth Student Workbook. Solution Tree Press, 2004. *Board, pen Scenaries adapted from http://kids.kaspersky.com/cyberbullying/parents/stories/2/ (25. 09. 2015)
Process	6 steps
Review of previous session (10 min)	A summary of the previous session, and also share the objectives of the current lesson.
What am I doing when stressful? (20 min)	"What I did when I was stressed": In the previous study, students were asked to check what they were doing when they were stressed. Students are first asked to evaluate the table individually and then in pairs
Are you aware how negative feelings develop? (20 min)	How do negative feelings develop? Chain game: Connection between a stress trigger reasoned a thought, and the thought reasoned an emotion, and also the emotion reasoned an action. Every student is given a number between 1 and 3. The 1s, the 2s and the 3s create 3 different groups. Each student has a card linked with his/her number. The students call their numbers and read their written sentences in their cards, in turn creating a new group.
Develop common sense (5 min)	Practice common sense! Personal controls struggle to ability to listen to common sense in us. "The voice inside me gives the signals that something is not o.k. We could call it a stress signal." Ask yourself: "What is bothering me?" Listen to yourself!
Reduce stress	Group work: Students choose 5 peers for their group. Each students is given a worksheet "Using steps to reduce stress of cyber life". Each group is given a scenario (adapted from http://kids.kaspersky.com/cyberbullying/parents/stories/2/) for effective coping with stress as Internet Detectives
Summary & evaluation	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary.

(10 min)	Each students will send her or his e-diary to instructor.
Special tasks for Internet Dedectives	Special tasks for Internet Detectives: (to be uploaded on Moodle) a. **TV Show**: You are a reporter on TV. You will watch one of the videos uploaded on Moodle. Then, one of your family member will watch it and will have an interview with her/him. You can make a video (with permission from the interviewee), or write a column for a famous newspaper! b. **Thought balloon!** Create different thought bubbles that are positive conversations to cope with cyber-bullying or stressful situations in school. Show your creativity! Take a picture of your work and send it to my mail address.

Session-7	**Wellness and balanced life**
Suggested timing	80 minutes
Objectives	To examine Internet habits of Internet usage in everyday life. To raise awareness about balance in the wheel of life.
Materials	*Worksheet: Time is Fast! Results of Internet Usage Habits Research Board, pencil for computer classroom. Video: Heads Up-Stop.Think.Click
Process	3 steps
Remember of the last Session (10 min)	A summary of the previous session with the Video: Heads Up-Stop.Think.Click. Ask students whad they have done to decrease their stress during the week and share the objectives of the current lesson.
Wheel of life (25 min)	Individual study:What do I do in a 24 hour-day? The students asked filled out the "Worksheet: Time is Fast!" in the Excel file. Then, pairsdiscuss their own graphs and give feedback to each other on time spent. Also, they discuss what he/she need to improve to have better time management, and a balanced life.
Interpret the graph (30 min)	Group discussion: Students examine the results of the previousan Excel file as Internet Detectives. What are the high points in the result? What do you think about it? After having discussion with a partner, they will prepare information to help other raise their awareness. They can prepare a poster, or a column for a newspaper or anything using their creativity.
Summary & evaluation (10 min)	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary. Each students will send her or his e-diary to instructor.

Special tasks for Internet Detectives	There is no special task for this week ☺

Session-8	**Empathy on the net**
Suggested timing	80 minutes
Objectives	To understand the meaning of empathy in the Internet life. To try to solve conflicts that can be encountered in digital interactions.
Materials	*Worksheet: Empathy during online Behaving Ethically Online: Ethics and Empathy, www.medismarts.ca 2014. Balanced Life Deniz Altınay, Psikodrama Grup Psikoterapisi 300 Isınma Oyunu. 2. Baskı, SistemYayıncılık, İstanbul. Mayıs 1999 (Walk fit emotion, p. 76). *Board, pen
Process	7 steps
Remember of the last Session (15 min)	A summary of the previous session. Each student prepared his/her graph connected with time spend for balanced life. They evaluated their balanced life graphs.
What is empathy? (10 min)	Group discussion: *What is empathy? *What is affective and cognitive empathy? *Why are empathic actions important?
Drama (5 min)	Drama game: Walk around fit different emotions!
Play a game (20 min)	Student volunteers for "effective listening" and "trying to figure out the shapes" games.
Different empathy (10 min)	Group discussion Students ask how empathy is the same and different in real and digital life. They prepare a mind map to discuss and summarize.
Scenarios with group works (25 min)	Students choose partners for a group activity : Read the scenarios on Side A and then have students discuss the following questions as a class about each one: (Adapted from http://mediasmarts.ca/sites/mediasmarts/files/lesson-plans/lesson_behaving_ethically_online_ethics_empathy.pdf) o How would you feel in this situation? o What would you do to resolve this situation? o Who would be affected by what you do? Have students form pairs and read the scenarios on Side B. Each of these scenarios revisits a scenario from Side A from another point of view. After they have read each one, students consider the same three questions. Discuss the students' solutions to the scenarios and which strategies they think would be most likely to work.

Summary & evaluation (5 min)	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary. Each students will send her or his e-diary to instructor.
Special tasks for Internet Dedectives	Just one special task this week ☺ = Use your creativity! **Design an Internet Toolbox**: Design a toolbox for safety and responsible Internet use.

Session-9	**Values in digital life**
Suggested timing	80 minutes
Objectives	To define human values in digital life, and to discover the ethical dilemmas in digital communication. To prevent conflicts and improve resolution skills in digital interactions.
Materials	*Scenarios adapted from http://mediasmarts.ca/sites/mediasmarts/files/lesson-plans/lesson_behaving_ethically_online_ethics_values.pdf *Video: Cem Yılmaz – Bilgi Paylaşma Hastalığı Board, pen
Process	5 steps
Remember of the last Session (5 min)	A summary of the previous session, and share objectives of this lesson.
Respect and value (10 min)	Group discussion: What does it mean when I say "value of life ? What about "respect for life"? It does not matter if life is "real or cyber" for value and respect.
Online values scenarios	Students choose their partners to form 6 groups. Group work: www.mediasmarts.ca Distribute the hand out Online Values Scenarios adapted from http://mediasmarts.ca/sites/mediasmarts/files/lesson-plans/lesson_behaving_ethically_online_ethics_values.pdf Each scenario presents two points of view in an online conflict. Discuss how the situation might be resolved, focusing particularly on how the characters might decide what is the right thing to do.
Choose one of them	Each group presents their solutions of theprevious activity through below options within 1 minute as Internet Detective: - Use drama - Prepare a tweet - Prepare a Facebook page - Prepare a Piktochart - Prepera an Instagram

	- Prepae a Pivot - Your choice – use your creativity ☺
Summary & evaluation (5 min)	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary. Each students will send her or his e-diary to instructor.
Special tasks for Internet Dedectives	There is no special task for this week ☺

Session-10	**Closing**
Suggested timing	80 minutes
Objectives	Evaluation of the nine weeks with students
Equipments	Game: Treasure Hunt activity Video: Safety Internet Video: Cyber-Seniors Video: Top 5 technology has changed the world.
Process	Include 3 steps
Group game (40 min)	Treasure Hunt activity related to responsible Internet use
A summary (15 min)	Powerpoint presentation summarizing the nine weeks Video: Safety Internet
Positive use of the Internet (5 min)	Examples of using the Internet positively Video: Cyber-Seniors Video: Top 5 technology has changed the world.
Tweet time (5 min)	The students write their tweets for younger students as Internet Detectives for a final study as summarize it a kind of slogan!
Summary & evaluation (10 min)	Summarize the session with students and give feedback to instructor with Activity- Feeling States Scale as a kind of diary. Each students share their feelings and thoughts about being in this group study.

APPENDIX K: MiNDLifeResP Interview Protocol

Date:
Place:
Interviewer:
Interviewee:

Guidelines for grounding the interview:

- No right or wrong answers
- All responses will contribute to understanding of the MiNDLifeResP
- The moderator's role is to guide the interview
- If there is a need for further clarification about questions and concepts, please do ask
- The interviewer will ask for the consent of all participants to use a recorder during thi interview before the interview takes place. All contributions remain confidential and no single person's name will be associated with the data. Data will be used in aggregate format.

Overview of purpose of interview:

- get in-depth understanding of students' experience from the Program
- contribute to develop of the program
- find out implications, if any, for training of students

Interview questions:

The interviewer directs the following questions to explore each students' level of understanding:

5. Questions about the connection of the Program with students' daily life
    a. Did you find anything meaningful with regard to your daily life in the Program that you have participated for 10 weeks? How?"
6. Questions about students' need satisfaction during the Program
    a. Do you think you have expressed your feelings and opinions during this program? Did you make a choice? How?
    b. Were you a part of the group? How?
    c. Were the studies conducted suitable for your knowledge and abilities? Were they easy or hard for you?
7. Questions about the strong aspects of the Program
    a. What was the thing that impressed you the most in the program?
8. Questions about students' suggestions for improvements
    a. What would you like to change in the program?

APPENDIX L: Parent Consent Form

VELİ İZİN YAZISI

Değerli Velimiz,

Son yıllarda bilgi ve iletişim teknolojilerindeki baş döndürücü gelişmeler, özellikle Internetin kullanımının yaygınlaşması, Interneti günlük yaşamımızın vazgeçilmez bir parçası haline getirdi. İnternetin yararlı kullanımları olduğu kadar, uygun olmayan kullanımlarına hepimiz az ya da çok çevremizde tanık olmaktayız. 21. Yüzyıl çocuklarının teknolojiyi kullanırken neyi neden yaptığını sorgulamayı öğrenmesinin, onları geleceğin yetişkinleri olarak hazırlayan biz eğitimcilerin görevlerimizden biri olduğuna inanıyorum. Bu nedenden hareketle, çocuklarımızın günlük yaşamında teknolojiyi kullanırken farkındalıklarını artırmak amacıyla okulumuz 6. Sınıfında uygulanmak üzere Sanal Yaşam Sorumluluk Programı hazırladım. On hafta boyunca haftada seksen dakika süreyle öğrencilerle birlikte araştırmacı olarak programı yürütmeyi planlamaktayım. Bu program esas olarak, önleyici rehberlik çalışmaları kapsamında, çocuklarımızın birer sorumlu Internet kullanıcısı olma özelliklerini artırmayı hedeflemektedir.

Çalışma için Ankara İl Milli Eğitim Müdürlüğü'nden gerekli izinler alınmıştır. Çocuğunuzun, yaşam kalitesini artırmaya katkıda bulunmayı amaçlayan bu çalışmaya katılıp katılmamasına izin verebilirsiniz ya da katılmayı kabul ettikten sonra istediğiniz an çalışmadan çekilebilirsiniz. Bu aşamalardan hiç birisi size ve çocuğunuza bir sorumluluk getirmeyecektir. Çalışma süresinde ortaya çıkan kişisel bilgiler ve veriler hiçbir şekilde üçüncü şahıslarla paylaşılmayacak ve sadece kodlarla kullanılacaktır.

Sizin ve çocuğunuzun çalışmayla ilgili aklınıza gelebilecek soruları araştırmacı olarak benimle paylaşmak için onay vermeden önce veya verdikten sonra çekinmeden iletişime geçmenizi rica ederim. Ayrıca, çalışma bittikten sonra aşağıda verilen iletişim adresinden tarafıma ulaşarak sonuçlar hakkında bilgi isteyebilirsiniz.

Önleyici rehberlik çalışmalarının geliştirilmesi için yapılan bu çalışmaya desteğiniz için teşekkür ederim.

Saygılarımla,

Jale Ataşalar
Eğitim Programları ve Öğretim Doktora Programı
Bilkent Üniversitesi Eğitim Bilimleri Enstitüsü

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Çocuğumun yukarıda sözü edilen araştırmaya katılmasını

☐Kabul ediyorum ☐ Kabul etmiyorum

Velinin Adı-Soyadı: _____
Telefon numarası:_____
Adres ve e-posta _____

İmza

VITA

Jale Ataşalar was born in November 10, 1971 in Daday, Kastamonu. Jale completed her BA and MA degrees in Psychology and Counselling department in Hacettepe University, Ankara, Turkey. She entered Bilkent University, Graduate School of Education, Curriculum and Instruction program to complete her PhD degree. Jale participated a wide range of trainings and workshops as part of her professional development. These professional development activities included: Family Therapy and Advanced Education, Positive Psychoteraphy, Gestalt Theraphy; Values Education, Conflict-solving Skills in European Primary Education, Inquiry, Approaches to Learning in the MYP, Human Resources Management, Creative Drama, Attention Deficit Disorder and Hyperactivity, Crisis Intervention Techniques, and Communication Skills. Jale currently works as the Head of Psychological Counselling and Guidance department and Approaches to Learning leader at Özel Bilkent Middle School. Her areas of interest include social-emotional development in children and adolescence, family therapy, and problematic Internet use.