İSTANBUL BİLGİ UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

CLINICAL PSYCHOLOGY MASTER'S DEGREE PROGRAM

Understanding the Association between Instagram Use and Psychological Well-Being
Among Young Adults in Turkey

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İSTANBUL

2019

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Türkiye'deki Genç Yetişkinlerde Instagram Kullanımı ve Psikolojik İyi Olma Hali
Arasındaki İlişkiyi Anlamak

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Date of Thesis Approval: 29.05.2019

Total Number of Pages: 113

ACKNOWLEDGEMENTS

First and foremost, I would like to express my sincerest gratitude to my thesis advisor Alev Çavdar Sideris for her contribution to work on a subject that captivated my interest so deeply, besides for her guidance, encouragement, endless support, and warmth, not only while I wrote this thesis but throughout my training in clinical psychology. She was a true inspiration and I feel fortunate to have had a chance to be one of her students. I am also grateful to Yudum Akyıl and Yasemin İlkmen for their devotion of time and suggestions to enhance this work.

My training in clinical psychology was a challenging journey filled with excitement, joy and anxieties. I want to express my deep thanks to all of the faculty members and to my clinical supervisors for guiding and containing me during my journey of becoming a therapist. And people, with whom I walked together, made this journey enjoyable and easier, I owe many thanks to them. I am thankful to Egenur for her support along the way. I would like to thank all my classmates for their invaluable companionship. My special thanks go to Fidan whose genuine and big-hearted friendship was a precious treasure I have found on this journey. I would also like to specially thank Aslı for reminding me of resilience and for becoming a source of mine during this journey. A very special warm thanks go to Ilgın for all the glitters and sparkles she brought to my life, and for always being the one on the other end of the phone in the eleventh hour of assignments as well. "Room 108" people, too, accompanied me through this journey; I thank them for the coffee talks, laughs, and for the holding environment they created between sessions.

I would also like to thank my beloved ones who accompanied me not only throughout this journey but also throughout many others. I want to thank to my dear friend Cansu, who is away in kilometers but close in heart, for her endless care, support, motivation, and contagious joy. I am profoundly thankful to Tolga, İpek, Murat, and Erim for their invaluable friendship and for the great times that eased the hard times. I am thankful to Ayşegül and Öznur for being there for me whenever I felt overwhelmed.

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ABSTRACT

Despite the proliferation of Instagram whose community has grown to 1 billion since its launch in 2010, there has been little research on the relationship between Instagram use and psychological well-being. Limited is known about the relationship between Instagram use and psychological well-being of young adults who stand out as the most active users than any other age group. For this reason, the aim of this study is to investigate the associations between different aspects of Instagram use and psychological well-being among young adults, with focusing on the time spent passive browsing on Instagram and the percentage of strangers that are followed as aspects of Instagram use, with the consideration of immature defense mechanisms and envy triggered by the Instagram experience. In order to measure these relationships, an online survey was conducted and results from 510 participants between ages 18 and 30, who identify themselves as Instagram users were analyzed. The results showed that psychological well-being was related to different aspects of Instagram use, with Instagram envy mediating the relationship between non-interactive surveillance activities and psychological well-being whereas contrary to expectations there was no moderation effect of immature defense use. Following the discussion of findings; clinical implications, limitations, and future directions were presented.

Keywords: Instagram use, psychological well-being, Instagram envy, immature defense mechanisms

ÖZET

2010 yılında faaliyete geçmesinden bu yana kullanıcı sayısı 1 milyarın üzerine çıkan Instagram'ın proliferasyonuna rağmen, Instagram kullanımı ile psikolojik iyi oluş arasındaki ilişki hakkında çok az araştırma yapılmıştır. Diğer yaş gruplarına kıyasla en aktif kullanıcılar olarak öne çıkan genç yetişkinlerin Instagram kullanımı ile psikolojik iyi olma hali arasındaki ilişki hakkında sınırlı bilgi mevcuttur. Bu nedenle, bu çalışmanın amacı genç yetişkinlerde Instagram kullanımının farklı yönleri ile psikolojik iyi olma hali arasındaki ilişkiyi; Instagram'da pasif taramayla geçirilen süre ile takip edilen yabancıların yüzdesine odaklanarak ve immatür savunma mekanizmaları kullanımı ile Instagram deneyimiyle tetiklenen hasedi dikkate alarak araştırmaktır. Bu ilişkileri ölçmek için, çevirimiçi bir anket yürütülmüştür ve Instagram kullanıcısı olan, 18-30 yaş arasındaki 510 katılımcının sonuçları analiz edilmiştir. Sonuçlar, psikolojik iyi olma halinin Instagram kullanımının farklı yönleriyle ilişkili olduğunu göstermiştir; Instagram hasedinin, etkileşim içermeyen gözetleme faaliyetleri ile psikolojik iyi oluş arasındaki ilişkide aracı etkisinin olduğu görülürken, immatür savunma mekanizmalarının beklenenin aksine ortalayıcı etkisinin olmadığı bulunmuştur. Bulguların tartışılmasının ardından çalışmanın katkıları, zayıf noktaları ve gelecek çalışmalar için öneriler sunulmuştur.

Anahtar kelimeler: Instagram kullanımı, psikolojik iyi olma hali, Instagram hasedi, immatür savunma mekanizmaları

"Photographs,
which cannot themselves explain anything,
are inexhaustible invitations to
deduction, speculation, and fantasy."
(Sontag, 1977)

INTRODUCTION

One of the most important technologies of the 21st century is the Internet; and in recent years, Internet-based platforms called "social media" have become nested more and more in people's lives. As of 2019, number of people who use social media constitutes 45% of the world population and these users spend more than 2 hours on average per day for engaging with social media (*Global Digital Report 2019*, n.d.). Concordantly, researchers have shown an increased interest in social media studies regarding its relationship with psychological well-being; but until very recently, research related to social media have focused mainly on investigating the associations between different aspe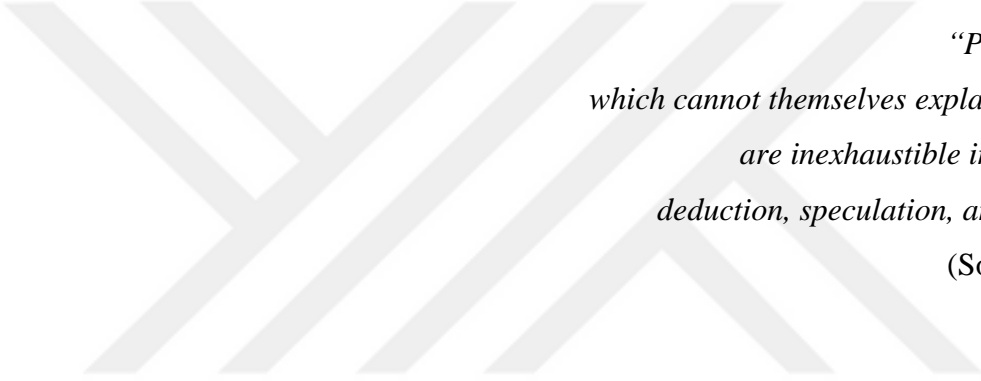cts of Facebook use and psychological well-being. Despite the proliferation of Instagram whose community has grown to 1 billion since its launch in 2010, there has been little research on the relationship between Instagram use and psychological well-being.

The aim of this study is to investigate the associations between different aspects of Instagram use and psychological well-being among young adults, with the consideration of defense mechanisms as a possible moderator and envy triggered by the Instagram experience as a possible mediator of these associations. In the first part of this thesis, psychological well-being will be explained in the light of the hedonic and eudaimonic perspectives. After a brief mention on how "digital age" intervenes with daily lives of people, highlights from the literature on social media use will be included in order to understand Instagram use in its broader context. Literature on different aspects of Instagram use and their relationship with psychological well-being will be reviewed. Concepts of Instagram envy and immature defense mechanisms will be presented as well. After proposing the hypotheses of this study formulated on the basis of the existing literature, the methodology to test them will be described and the results will be presented. Finally, findings of this study will be discussed with regard to the literature.

CHAPTER 1
LITERATURE REVIEW

1.1. PSYCHOLOGICAL WELL-BEING

"Well-being" is one of the most discussed concepts which philosophers and psychologists have been trying to describe for many years. Philosophical roots of the discussion traces back to ancient Greece. "Well-being" is widely recognized as referring to optimal psychological functioning, yet it remains unclear what "optimal psychological functioning" consists of (Ryan & Deci, 2001). In the second half of the last century, there was an emphasis on pathology, which equated optimal psychological functioning with the absence of deficits, symptoms, and a psychological disorder (Altmaier, 2019). However, the rise of positive psychology movement paved the way for understanding psychological well-being in terms of what allows people to function adaptively and to flourish (Schueller, 2012). The focus has shifted from psychopathology to virtues and strengths such as creativity, open-mindedness, integrity, love and kindness, self-regulation, and hope (Altmaier, 2019). Moreover, Cowen (1991) also proposed an outline of well-being; focusing on close relationships, use of age-appropriate skills, having an environment which promotes flourishing. Thus, conceptualization of well-being included not only the absence of maladaptive aspects or distress, but also positive affects (Keyes, 2005) and adaptive functioning with optimal effectiveness in personal and social life (Winefield, Gill, Taylor, & Pilkington, 2012). Subsequently, two relatively distinct approaches emerged for the study of psychological well-being, namely hedonic and eudaimonic (Ryan & Deci, 2001).

The hedonic approach accentuates feelings of happiness, pleasure, positive affect, and life satisfaction over less negative affect; while including judgments about not only good but also bad aspects of life (Ryan & Deci, 2001). The eudaimonic approach, on the other hand, accentuates actualizing human potentials and living in accordance with true self (Waterman, 1993). In line with eudaimonic approach, Ryff

(1989) offered a multidimensional concept of well-being, which includes autonomy referring to independence and self-determination, personal growth referring to realizing one's potentialities and actualizing oneself, self-acceptance referring to holding positive attitudes toward oneself, purpose in life referring to having a sense of direction, mastery over environment referring to the ability to manage one's life, and positive relatedness referring to having quality relationships with others.

In this current study, a blend of eudaimonic and hedonic approaches will be followed by investigating well-being in terms of autonomy, personal growth, self-acceptance, purpose in life, environmental mastery and positive relations with others, besides satisfaction with life; as Ryan and Deci (2001) concluded that two approaches complement each other to assess well-being.

1.2. DIGITAL AGE

We currently live at a time in history referred to as "digital age" in which most information is digitalized and analog technology is giving its way to digital technology. In "digital age," new inventions were introduced into daily life of people such as computers, automated teller machines, digital mobile phones, Internet, smartphones, tablets, smartwatches, and many more. New forms of communication, such as social media, which are immediate and far-reaching to great groups of audiences (Karle, 2013), have emerged and turned out to be key tools for people to connect with others. From fridges to vacuum cleaners, almost everything has become a part of the "Internet of Things". Letters are leaving their place to e-mails, diaries to blogs, newspapers to tweets, face-to-face activities to online meetings, and photo albums to Insta-feeds.

Today, the world is so saturated by digital technology that Kaplan (2012) argues that it is now difficult to envision a life without digital technologies since their use became an essential characteristic of human activity, especially among young people. According to the statistics, 90% of the millennials, also known as Generation Y, start the day by checking their phones while they are still in the bed (2014 Cisco Connected

World Report), and engage with digital technologies for approximately 11 hours per day (Brito, 2012). As digital technology has taken roots in the daily lives of people and as our world has transformed towards a world connected by Internet, researchers question whether humankind is evolving from Homo Sapiens towards Homo Digitalis (Montag, 2018).

The use of digital technologies has inevitably received critical attention as well. On the one hand, digital technologies are helpful tools to bring different ends of the world closer and to accomplish tasks easier. On the other hand, as Thorpe (2008) stated, digital technologies have speeded up the daily tempo so much that in this hurry there is not much time left for the moments for reflection. Besides, Montag and Diefenbach (2018) highlighted that everyday life is becoming fragmented due to the interruptions by digital notifications, which might then lead to loss of productivity. Furthermore, information overload may weaken people's ability to focus on one specific thing as it becomes hard in the face of flooding information to distinguish things according to their importance (Thorpe, 2008). Within this context, especially the use of social media has been subject to considerable debate as it is the most current form of communication technology, which many people use actively every day and quite a few times a day (Postman, 2008).

1.3. SOCIAL MEDIA

Kaplan and Haenlein (2010) define "social media" as Internet-based platforms branched out of the grounds of Web 2.0 which enable the creation and sharing of User Generated Content. While these collaborative Internet-based platforms gather people online to reach and share content, they also provide means to stay in touch with others whom people already know and to meet others whom people do not know (Jue, Marr & Kassotakis, 2009). Berthon, Pitt, Plangger, and Shapiro (2012) define social media by breaking the term into its pieces; the "social" part refers to the mechanism that allows people to communicate with others all over the world whereas the "media" part

refers to the written, visual, and audio-visual content such as texts, images, photos, videos, and recordings. Accordingly, throughout this dissertation, the term "social media" will be used in its broadest sense to refer to all collaborative Internet-based platforms from social networking sites to microblogs.

The origins of social media date back to the introduction of Classmates.com in 1995, but it has gained its widespread recognition after the launch of Facebook in 2004 (Shah, 2016). Its popularity has risen parallel with the increase in the number of mobile phone users which currently constitute over half of the world population (*Global Digital Report 2019*, n.d.). People carry their mobile phones everywhere they go; thus, they can use social media almost anytime and anywhere. Owing to 7/24 access to social media; posting images or status updates, liking and commenting, following and unfollowing, browsing practices on social media have become nested in everyday life (Hudson et al. 2015; Sofka et al., 2012). Nowadays, it is not unusual for people to create online profiles for their yet-to-be-born child, to follow online profiles of celebrities, to post snippets of their lives, to share photos of what they eat or buy, to live-stream from parties, to express their political views, to blog about their illnesses, to reblog their favorite art pieces or to organize events through social media platforms at their fingertips.

1.3.1. Proliferation of Social Media Use

"Digital in 2019" report (*Global Digital Report 2019*, n.d) reveals that social media use shows an increase worldwide and about 3.5 billion people, approximately 45% of the world population, are now active social media users. In terms of monthly active users, Facebook is the most popular social media platform with over 2 billion active users while YouTube is the second leading social media platform with approximately 2 billion active users. Instagram follows them after a cluster of predominantly message-based platforms with nearly 1 billion active users.

Additionally, users engage with social media on an average for 2 hours 16 minutes per day.

When compared to the worldwide statistics mentioned above, an almost similar trend is apparent in statistics on social media use in Turkey. According to the statistics revealed in the aforementioned report, the number of social media users in Turkey has increased by 1 million over the past year which corresponds to a growth of 2%; and the number of active social media users constitutes the majority (63%) of the general population in Turkey. Daily time spent using social media in Turkey is higher than the world average; a typical social media user in Turkey spends 2 hours 46 minutes per day on social media. Strikingly, list of the most popular social media platforms in Turkey is far different from that of the world's top social media platforms worldwide. YouTube is the ruling supreme used by 92% of internet users in Turkey, and Instagram follows it second as 84% of the internet users engage with it (*Global Digital Report 2019*, n.d).

Albeit social media is used by public en masse, young adults stand out as the most active users than any other age group. The number of young adults constitutes more than half of the social media users both in the world and in Turkey (*Global Digital Report 2019*, n.d). Statistics detailed before highlight that over the past decade social media use has become a part of daily routine for many people and especially for young adults. Yet, although an extensive amount of research has examined outcomes linked to social media use, there is no consensus regarding the effects of it on well-being which was mostly examined in terms of satisfaction with life, quality of life, and symptoms of depression and anxiety, besides body image concerns (Weinstein, 2017).

1.3.2. Positive Relationship between Social Media Use and Well-Being

As social media provides an important means for social interaction with family members, friends, acquaintances, and even strangers (Viswanath, Mislove, Cha & Gummadi, 2009); it affords maintaining already existing social ties and creating new

ties. Accordingly, social media use has been found to be positively associated with social capital, social connectedness and social support, which, in turn, are related to improved well-being (Kawachi & Berkman, 2001). Besides, social media is likely to expand opportunities for self-expression.

Ellison, Steinfield and Lampe (2007) found Facebook use to be strongly associated with 3 types of social capital; bridging social capital, bonding social capital and maintained social capital, respectively. Findings of a longitudinal research on Facebook conducted by Burke, Kraut, and Marlow (2011) revealed that time spent on this social media platform predicted increase in bridging social capital, which refers to benefits derived from casual relationships, when prior level of bridging social capital was controlled. Findings of this research also revealed that active use, but not the passive use, of this social media platform was associated with increase in bridging social capital. Similarly, a study on Twitter use indicated that to a certain point, the number of people, whom users follow and users are followed by are positively associated with social capital (Hofer & Aubert, 2013).

Considering the fact that Facebook provides a unique medium to build and maintain relationships; Grieve, Indian, Witteveen, Tolan, and Marrington (2013) identified "Facebook social connectedness" for the sense of belongingness experienced on Facebook as a distinct construct separate from social connectedness experienced in the offline environment. They found Facebook social connectedness to be positively associated with life satisfaction and to be negatively associated with depression and anxiety. An experimental study testing the effect of posting Facebook status updates on social connectedness and loneliness showed that social connectedness was heightened whereas loneliness was declined via an increase in status updating when participants posted more than their usual frequency (Deters & Mehl, 2013). Besides, social media use with the motivation for connecting with others was found to be negatively associated with loneliness (Teppers, Luyckx, Klimstra, & Goossens, 2014).

According to the findings of a study investigating the relationship between self-disclosure on social media and mental health (Zhang, 2017), Facebook appears as a

venue for people to open themselves up in the presence of stressful circumstances and to get social support, which then contributed to greater life satisfaction and reduced depression. Additionally, self-disclosure activity on social media was found to be positively correlated with subjective well-being (Kim & Lee, 2011; Lee, Lee, & Kwon, 2011). More precisely, findings of a cross-sectional study conducted by Kim and Lee (2011) revealed that if self-disclosure was honest, it boosts subjective well-being while perceived social support mediates this relationship.

Moreover, a study conducted by Frison and Eggermont (2015) demonstrated that perceived social support after seeking support on Facebook was associated with decreased depressed mood. Correspondingly; Park, Lee, Shablack, Verduyn, Deldin, Ybarra, Jonides and Kross (2016) found perceived social support derived from Facebook to be negatively correlated with depression. In another study, companionship support associated with positive affect felt through social media interactions was found to predict life satisfaction (Oh, Ozkaya & Larose, 2014). Another important finding was that social media provides opportunities both for informational and emotional support to those suffer from health problems (Bugshan, Nick Hajli, Lin, Featherman, & Cohen, 2014).

Interestingly, Brailovskaia and Margraf (2016) found Facebook users had higher social support, life satisfaction, and subjective happiness levels in comparison to those participants who do not use Facebook. Besides, Facebook users had fewer depressive symptoms than Facebook non-users had.

1.3.3. Negative Relationship between Social Media Use and Well-Being

As is understood from the research findings cited above, the literature about social media provides data for the potential of its use to influence well-being beneficially (e.g. Ellison, Steinfield, & Lampe, 2007; Kim & Lee, 2011; Valenzuela, Park, & Kee, 2009). Nevertheless, the immersion in the world of social media seems to come with certain drawbacks, as a growing body of social media research reveals a

multitude of decreased well-being experiences. Studies revealing "the dark side" of social media use document positive associations with body dissatisfaction and eating disorders, stress and anxiety, decreased mood, depressive symptoms, loneliness, declines in self-esteem and life satisfaction, which, in turn, are related to deteriorated well-being. For instance, a systematic review of 65 articles focusing on Facebook use documented Facebook use to be associated with body image concerns, anxiety, depression and other mental health problems (Frost & Rickwood, 2017).

Richins (1995) concluded that media prompts people to feel less satisfied with themselves and feel inferior via leading them to upward-directed comparisons with others. Perloff (2014) claimed that social media use would have negative effects on body image as traditional media use has. In line with Perloff's claims, findings derived from correlational studies point out that social media use is associated with body image concerns, especially in young women (Fardouly & Vartanian, 2016). Cohen, Newton-John, and Slater (2017) found appearance-related social media use of young women to be associated with internalization of thin-ideal and body image concerns. Additionally, these researchers also found "selfie" activities on social media to be positively associated with body-related concerns and bulimia symptomatology in young women (Cohen, Newton-John & Slater 2018). An experimental study conducted by Fardouly, Diedrichs, Vartanian, and Halliwell (2015a) compared appearance discrepancies of women who were randomly assigned to spend time on their Facebook, a magazine website or control website. Findings of this study indicated that time spent on Facebook led to more appearance discrepancies in women than time spent on the control website. Moreover, another experimental study tested whether social media engagement with attractive peers has an impact on body image concerns of young women and its findings revealed that engaging with attractive peers, but not with family members, intensified negative body image (Hogue & Mills, 2019). Furthermore, spending a lot of time on Facebook was found to be associated with lower self-esteem in general (Kalpidou, Costin, & Morris, 2011).

Regarding depression, a study involving 4 separate meta-analyses examining different aspects of social media use revealed that frequency of checking social media, more time spent on social media and social comparisons, whether general or upward, were significantly correlated with higher levels of depression (Yoon, Kleinman, Mertz & Brannick, 2019). Steers, Wickham, and Acitelli (2014) found more time spent on Facebook to be associated with more depressive symptoms. A study surveying the use of multiple social media platforms, symptoms of depression and anxiety among young adults found the number of platforms used to be associated independently both with depression and anxiety symptoms (Primack, Shensa, Escobar-Viera, et al., 2017). Furthermore, emotional investment in social media was found to be strongly associated with anxiety and depression among young people (Woods & Scott, 2016). When it comes to anxiety, time spent on social media was found to be positively associated with symptoms of dispositional anxiety (Vannucci, Flannery, & Ohannessian, 2017) whereas time spent on Facebook and passive use of Facebook were found to be positively associated with social anxiety symptoms (Shaw, Timpano, Tran, & Joormann, 2015).

An experimental demonstration of negative influence of social media use on well-being was also carried out by Sagioglou and Greitemeyer (2014); they found participants who were assigned to spend 20 minutes on Facebook had lower levels of affective subjective well-being in comparison to participants who spent same amount of time for browsing the Internet and for completing random questionnaires. In another experimental study conducted by Fardouly, Diedrichs, Vartanian and Halliwell (2015), spending time on Facebook led to a more negative mood than spending time on a control website. In addition, social media is suggested to be able to trigger envy feelings (Krasnova, Wenninger, Widjaja, & Buxmann, 2013), which reduced life satisfaction in turn and impaired psychological well-being.

Findings raising concern over the relationship between loneliness and social media use are also worth noting. A recent cross-sectional survey showed that young adults who check social media frequently and spend more time on it were experiencing

greater perceived social isolation than those who check social media less frequently and spend less time on it (Primack, Shensa, Sidani, et al., 2017). Another study reported that social media use emerged as a predictor of loneliness (Savci & Aysan, 2015). Correspondingly, persistent usage of Facebook was found to be associated with feeling lonelier (Phu & Gow, 2019) and greater consumption of content shared by others on social media was found to be associated with increased loneliness (Burke, Marlow & Lento; 2010).

As presented above, literature offers contradictory findings about the relationship between social media use and well-being. Hence, researchers suggest that how people use social media might be of importance to explain diverse array of results. However, much of the research has been descriptive in nature and causal relationships have not yet been sufficiently established. Moreover, most studies to date has tended to focus on Facebook use, and relatively little is known about Instagram use and its relation to well-being. This indicates a need to examine different aspects of Instagram use in order to gain insight into its effects.

1.4. INSTAGRAM

Remarkably, "camera, photo paper, a darkroom, exhibition spaces such as galleries, and publication venues such as magazines exist together" (Manovich, 2017, p.11) in a social media platform called Instagram. In October 2010, with "the hope of igniting communication through images" (Siegler, 2010), co-founders Kevin Systrom and Mike Krieger introduced Instagram as a social media platform which allowed its users to take and share photos. Systrom described that Instagram's unique characteristic was about "seeing and taking photos on-the-go" (Systrom, 2013a) and sharing them, in fact, the word "Instagram" itself is a neologism of "instant [camera]" and "[tele]gram" (Manovich, 2017).

1.4.1. Evolution of Instagram

Since its release in 2010, Instagram has been continuously evolving thanks to some changes in what the platform provides to its users. Initially, Instagram was designed to take square-shaped photos, edit them with built-in filters and share them online with short descriptions. In the beginning of the year 2011, "hashtag" function was added, which enabled users to search photos related to a specific content. In 2012, Facebook acquired Instagram. In 2013, co-founder Systrom wrote "Some moments […] need more than a static image to come to life." and declared that Instagram started to support recording and sharing short videos (Systrom, 2013b). In the same year, functions of tagging other profiles on photos and direct messaging were also introduced. In 2015, Instagram started to support landscape and portrait size formats in addition to square size format which was until then Instagram's hallmark format. Another fundamental change has been made in 2016 that in addition to sharing permanent (if not been deleted by intention) photos on one's own profile, Instagram enabled sharing photos and videos as Instagram Stories which automatically disappear after 24 hours. Shortly after, Instagram introduced "Live story" feature, by which users can broadcast and others can leave their comments and likes. In 2017, sharing up to 10 images in one post and archiving posts functions were added.

In addition to these changes mentioned above, some firm actions to safeguard Instagram community have been taken based on the collaborations with mental health experts. With keyword moderation tool, users can list inappropriate words which they want to be hidden from their posts (Systrom, 2016a). Anonymous reporting for self-injury posts had been granted and a team works 7/24 to review these posts; in case of alarming content, users are notified to better connect with a trusted friend, contact a helpline, and get tips to support themselves (Systrom, 2016b). Moreover, similar help is being offered when someone engages with a hashtag page for a sensitive topic related to psychological distress (Systrom, 2017). If reported, intimate images shared without consent can be removed and future attempts to share such images can be prevented

("Building a Safer Community: Protecting Intimate Images – Instagram", 2017). An activity dashboard and a daily reminder for prolonged use are recent functions that were added to Instagram in 2018 ("New Tools to Manage Your Time on Instagram and Facebook – Instagram", 2018). Thus, Instagram has taken its current form as a freely available social media platform.

Currently users can post photos, videos, and visual stories with the option of using enhancement filters, manipulation tools, and stickers. Users can view, "like" by tapping a heart icon, and leave comment on the content shared by others. Besides interactions with acquaintances, connection with others who are not known personally is promoted by hashtags and "explore" sections. In contrast to Facebook -but similarly to Twitter- Instagram relies on the option of a one-directional connection, meaning a user can follow the content of others without others having to follow in return. Moreover, Instagram provides its users different options to keep their profiles either private or open to public. In private mode, only those who were consented by the profile owner can view, like and leave comment on the content. In public mode, all Instagram users, except those who were blocked by the profile owner can view, like and leave comment on the content, and besides, other Internet users who are not logged-in to Instagram can view the shared content but cannot engage with it.

1.4.2. Proliferation of Instagram Use

Statistics provided in "Digital in 2019" point out that Instagram is ingrained in the daily lives of many people. More than 1 billion active accounts are registered in Instagram, suggesting approximately 15% of the world population is active Instagram users. In Turkey, number of Instagram users is estimated to be 38 million, which constitutes a slight the majority (58%) of the general population in Turkey, which is reported to be the world's highest dispersion rate in 2018. Similar to the social media trends in general, Instagram is extremely popular among young people as over half of the Instagram users in Turkey are young adults (*Global Digital Report 2019*, n.d).

1.4.3. Motivations for Instagram Use

A number of researchers have sought to determine what motivates masses to use Instagram. A single answer to this question is insufficient; yet, Sheldon and Bryant (2016) identified "surveillance/knowledge about others," "documentation," "coolness," and "creativity" as main motives for Instagram use. Their findings showed that people are most likely to use Instagram to gain knowledge about updates of others. However, their findings also reveal that people use Instagram to depict and remember their life through images; suggesting Instagram provides a photo album available in a disembodied, non-spatial, and time-independent context. Sheldon and Bryant (2016) were first to report identifying "documentation" motivation in a study related to social media and subsequently they maintained that motivation for documenting one's life seems to be unique to Instagram use. Kevin Systrom, co-founder of Instagram, stated that they hoped for bringing a welcoming community together through Instagram and shared their commitment to keep this platform as a place open to self-expression (Systrom, 2016b). In line with the commitment of Instagram's co-founders, findings of a study conducted by Lee, Lee, Moon and Sung (2015) acknowledged self-expression as one of the motivations behind Instagram use; other motivations being social interaction, archiving, escapism, and peeking, respectively.

Binns (2014) suggests different social media platforms may have different influences on users as each social media platform comes to have its own characteristics and provide users unique experiences. With editing, sharing and tagging images being central to the "vernacular" of Instagram (Gibbs, Meese, Arnold, Nansen, & Carter, 2015), Instagram differs from many social media platforms such as Facebook and Twitter which are mainly text-based (de Vries, Möller, Wieringa, Eigenraam, & Hamelik, 2018). In fact, researchers argued that image-based vernacular of Instagram leads to a manipulated positive self-presentation and to a focus on self-promotion (Dumas, Maxwell-Smith, Davis, & Giulietti, 2017) as American philosopher Susan Sontag compared photography to an "attempt to control, frame and package our lives -

our idealized lives- for presentation to others, and even to ourselves" (as cited in Popova, 2013).

Interestingly, younger users of Instagram were reported to show a tendency to have multiple Instagram accounts for strategic self-presentation (Safronova, 2015). Many Instagram users own a "r(eal)insta(gram)" where they share cool content depicting themselves in the most favorable light, whereas they also own a "f(ake)insta(gram)" whose audience is limited to closest friends and where they post the unattractive content they would not feel comfortable sharing with a greater audience (O'Connell, 2018). While "rinsta" use is found to be associated with presenting an impressive self, "finsta" use is found to be associated with a fuller self-expression and with bonding as social capital (Kang & Wei, 2019). Yet, as Manovich proposed, "Instagram is used in hundreds of different ways by its hundreds of millions of users" (Manovich, 2017) and the ways in which different aspects of Instagram use are related to psychological well-being remain understudied despite the popularity of Instagram.

1.4.4. Positive Relationship between Instagram Use and Well-Being

Potential benefits of Instagram use psychological well-being have been found to arise from increased social exchange and social support. A survey study conducted by Pittman (2015) revealed a significant negative correlation between attitude toward Instagram and loneliness; as attitude toward Instagram was more positive, users were less likely to report feeling lonely. Moreover, same study also revealed that users tended to consume content on Instagram shared by others more than they tended to create their own content. Nonetheless, no significant difference between those who consume and those who create content was found regarding reported loneliness, as increase in both behaviours were significantly related to decreased loneliness (Pittman, 2015). Correspondingly, Andalibi, Ozturk and Forte (2017) found that Instagram provides it users an opportunity to get social support in form of positive feedbacks and

to gain a sense of community when they disclose negative feelings and difficult experiences.

1.4.5. Negative Relationship Between Instagram Use and Well-Being

Instagram use also presents certain barriers to psychological wellbeing. For instance, UK Royal Society for Public Health reported Instagram to have the most detrimental associations with well-being of young users compared to other social media platforms (Macmillan, 2017). Past research indicates associations between Instagram use and appearance-related comparisons, body dissatisfaction, depressive symptoms, negative mood, and decreased life satisfaction. In addition, Yang (2016) found live broadcasting on Instagram to be associated with feeling lonelier, suggesting users who frequently broadcast tend to feel isolated when they do not perceive the support they longed for.

Studies mentioned in the Social Media and Well-Being section illustrated how social media use can catalyze appearance concerns and affect body image, especially among young women. Instagram seems to constitute no exception regarding this issue. Yet further, Instagram use might be more concerning considering that Instagram, compared to other social media platforms, is heavily based on self-promotion via images (Marcus, 2015).

Hendrickse, Arpan, Clayton, and Ridgway (2017) studied how female undergraduates' activities on Instagram are related to appearance-related comparisons, drive for thinness and body dissatisfaction. They found photo-based activities were positively associated with drive for thinness and body dissatisfaction while appearance-related comparisons were mediating this relationship. Cohen, Newton-John and Slater (2017) also addressed body image issues in their study, they found an association between following appearance-focused accounts on Instagram and body image issues including thin-ideal internalization and drive for thinness. Findings of an experimental study conducted by Tiggemann, Hayden, Brown, and Veldhuis (2018) revealed that

being exposed to thin-ideal images on Instagram led to greater body and facial dissatisfaction than being exposed to neutral images did. Moreover, findings of the same study also revealed that investment in "likes" was associated with more appearance comparison. Comparing exposure to idealized images and authentic images on Instagram, Fardouly and Rapee (2019) found exposure to idealized selfies of women with make-up led to an increase in face-related concerns whereas exposure to selfies of women without make-up did not have any impact. In another experiment, exposure to appearance-related positive comments under attractive images on Instagram yielded a greater body dissatisfaction than exposure to same images with place-related comments (Tiggemann & Barbato, 2018). In addition to these findings, Sherlock and Wagstaff (2018) demonstrated that exposure to beauty and fitness images on Instagram led to a decrease in attractiveness scores which participants rated themselves before and after experimental conditions; suggesting self-perception may get poorer due Instagram use.

Fitspiration, combining the words "fitness" and "inspiration," is an online trend which arose for motivating people to pursue a healthy life via exercise and healthy eating habits and to encourage female empowerment (Ghaznavi & Taylor, 2015). But, despite its initial aim to be a remedy to the "thinspiration," fitspiration seems to trigger negative feelings about the self and body image as well. An experimental study found that in comparison to viewing neutral images, viewing fitspiration images led to poorer self-compassion (Slater, Varsani, & Diedrichs, 2017), which is thought to be a protective factor against body image concerns (Kelly, Vimalakanthan, & Miller, 2014). Tiggemann and Zaccardo (2015) performed a similar experiment, in which Instagram fitspiration images or travel images were presented to female undergraduate students, and they found that being exposed to Instagram fitspiration images led to a more decreased mood and body dissatisfaction than travel images did. In addition, appearance-based social comparison was found to mediate this effect on women's body image.

Sherlock and Wagstaff (2018) conducted an extensive research on Instagram use and its relation to various psychological variables. They found frequency of Instagram use to be correlated not only with body dissatisfaction and appearance-related anxiety, but also with depressive symptoms, general anxiety and self-esteem. Strikingly, social comparison orientation was found to be mediating each relationship.

Lup, Trub, and Rosenthal (2015) made a major contribution to research on the relationship between Instagram use and psychological well-being by exploring it in terms of depressive symptoms with considering the mechanism of social comparison and number of strangers whom users follow. They argued "browsing the enhanced photos of […] strangers on Instagram may trigger assumptions that these photos are indicative of how the people in them actually live" and then may lead to comparisons of themselves with others' highlighted reel, which may further produce a basis for envy. Their study, which inspired this current study, hypothesized a positive association between frequency of Instagram use and depressive symptoms, while negative social comparison mediates this association and percentage of strangers moderates these associations. Eventually, Lup, Trub, and Rosenthal (2015) found frequent Instagram use to be directly associated with greater depressive symptoms, but not with social comparison. Yet, negative social comparison evoked while Instagram use was found to be associated with greater depressive symptoms; confirming that the more inferior people feel compared to others they encounter on Instagram, the greater depressive symptoms they have. Moreover, percentage of strangers followed was found to moderate association between Instagram use and depressive symptoms via social comparison; suggesting frequent Instagram use was associated with greater depressive symptoms and negative social comparison for those who follow more strangers. Hence, Lup, Trub, and Rosenthal (2015) revealed that there is a need for not only the frequency of use or the extent of social network on Instagram, but also for specific features of Instagram to be investigated considering its psychological correlates. However, research on Instagram use is still in its infancy and much uncertainty still exists about the relationship between different aspects of Instagram use

and psychological well-being. Reviewing the literature on Instagram use, the mechanism of social comparison attracts attention and brings Instagram envy into the question as upward social comparison mostly leads to it (Emmons & Mishra, 2011).

1.5. INSTAGRAM ENVY

The term envy is widely used in everyday life; mostly referring to the displeasure felt regarding the desirable yet unattainable goods of others; including material possessions, superior qualities, and accomplishments. Considering the nature of social media which provides numerous means to present oneself to great audiences, and often in an idealized way, the concept of envy comes to the forefront regarding the experiences of the audience who are exposed to a highlight reel. In line with this, Jordan et al. (2011) concluded that envy is a commonly experienced feeling in social media context as people often engage in comparisons with others seen on social media platforms. Hence, the current study focuses on the Instagram envy which is thought to be elucidated from the engagement in Instagram use.

1.5.1. Theoretical Background for Envy

Although mostly used interchangeably with jealousy, which involves three parties, envy is a dyadic phenomenon. Another common misconception is to use envy interchangeably with covetousness, which refers to longing for something someone possesses; whereas envy refers to the having an ill-will toward someone who possesses the good. The emotion envy often denotes pain in accordance with feelings of inferiority and aggression (Smith & Kim, 2007), as the Latin origin of the word means looking viciously upon. It is a negative state resulting from encountering others with desirable circumstances, upwardly comparing oneself to apparently superior others and having an urge to destructively spoil what superior others have. The envier either longs

for the good the envied person owns or wishes taking this good away from the envied person (Parrott & Smith, 1993).

In the psychoanalytic view, Melanie Klein's theory of envy is considered to be one of the foremost contributions to understand this phenomenon. While defining envy as an aggressive feeling felt when another person possesses something good, Klein described the envier as a malicious hater of the of the joy others have, with an aim to hurt and ruin others (1975). According to Klein, envy has a constitutional basis and operates from the beginning of life, with the breast of the mother being the first object to be envied. The child would rather attack the "good breast" in order to remove the source of envious feelings than remain dependent on what her/himself cannot possess. Hence, considering envy as leading to destruction of life-sustaining connections to others, Mitchell and Black (1995) further liken toxic levels of envy to a kind of autoimmunological disorder, which destroys the self along with others.

Another major perspective that contributed to understand envy phenomenon is the social psychological theory of social comparison. According to Festinger's Social Comparison Theory (1954), people evaluate their own abilities and opinions through comparing themselves with others. Whereas comparing oneself with an inferior may lead to pride and sympathy, comparing oneself with a superior is found to be associated with feelings of envy (Buunk & Ybema, 2003; Wills, 1981; Wood, Giordano-Beech, Taylor, Michela, & Gaus, 1994). Envy arises when one's personal qualities or material possessions are not good enough as the ones others have (Salovey & Rodin, 1985) and when upward comparison with these others lead to negative assessments of one's own condition (Smith & Kim, 2007).

1.5.2. Envy in the Social Media Context

The concept of envy in the social media context is mostly understood in line with the Social Comparison Theory. The literature indicates people often experience heightened levels of envy due to their social media use experiences (Jordan et al., 2011)

and envy feelings elucidated from social media use are often triggered by the content focusing on "travel and leisure," "social interactions," and "happiness" (Krasnova et al., 2013). Various research revealed associations between Facebook use and envy feelings (Chou & Edge, 2012, Krasnova, Wenninger, Widjaja, & Buxmann, 2013) Moreover, feelings of envy accompanying upward social comparisons were found to be mediating the negative relationship between passive use of Facebook and life satisfaction (Krasnova et al., 2013).

1.6. IMMATURE DEFENSE MECHANISMS

As previously presented, the existing research indicates both positive and negative relationships between social media use and psychological well-being, further illustrating the need for investigating intrapsychic processes to understand who are intrapsychically inclined to benefit or to suffer from social media use. Considering the fact that Instagram use has been found to be associated with various distress factors, defense mechanisms may be of importance to understand how people deal with the distress associated with Instagram use. Hence, current study assumed the distress related to Instagram use to influence well-being negatively when it is distorted by immature defense mechanisms and/or not adequately processed.

Defense mechanisms are mental operations that function unconsciously to protect the person from anxiety and distress triggered by internal and external stressors, and to maintain the cohesion of the self (Cramer, 2015). However, each person may use different defense mechanisms in the face of anxiety or distress. The defense mechanisms are grouped under defensive styles which are widely thought to have a hierarchical nature, from immature to mature defense styles, respectively. And although defense mechanisms are recognized as adaptational processes in the contemporary literature, they may be associated with psychopathology when used excessively or age-inappropriately (Cramer, 2015). In this regard, the defensive style is considered to be related with maturity and psychological health (Vaillant, 1971).

1.6.1. Theoretical Background of Defense Mechanisms

The term "defense" was introduced to the classical psychoanalytic literature by Sigmund Freud in his work "The Neuro-Psychoses of Defense" (S. Freud, 2014), in which he described them as mental operations against unacceptable thoughts, feelings, and impulses which would cause anxiety and unpleasure if acknowledged. After the establishment of his structural model, S. Freud elaborated on his conceptualization of defense mechanisms to the ego's unconscious reaction patterns to defend itself against the anxiety, which arises from the intrapsychic conflict associated with the id's impulses and their gratifications (S. Freud, 1936). Thus, he paved the way for the concept of defense mechanisms to be a keystone in psychoanalytic theory. Yet, it was Sigmund Freud's daughter, Anna Freud, who provided clear definitions of the ego's specific defense mechanisms based on the comparison of various anxieties the ego protects itself from (A. Freud, 2004).

In her seminal work titled "The Ego and The Mechanisms of Defense," Anna Freud (1936) postulated that the ego tries to protect itself not only from the anxiety associated with the id's impulses and the conscious fear associated with superego, but also from the anxiety associated with the environment interactions. She classified ten defense mechanisms as repression, regression, reaction formation, isolation, undoing, projection, introjection, reversal, turning against self, and sublimation. She theorized that defense mechanisms follow a chronology in accordance with specific developmental phases; indicating that the use of specific defense mechanisms in an age-inappropriate context may signal psychopathology (A. Freud, 2004). However, she also associated defense mechanisms with adaptive functioning in the face of challenges in the external reality, besides recognizing defense mechanisms as a means to sustain internal homeostasis (Hentschel, Draguns, Ehlers, & Smith, 2004).

The initial list of ten defense mechanisms identified by Anna Freud (1936) has extended over time with further contributions of herself and other psychologists. Melanie Klein is one of these psychologists, as she contributed to the conceptualization

and classification of defense mechanisms by stating that protecting itself from anxiety is one of the first activities of the ego, and by introducing splitting, idealization, projective identification and manic defenses as the early defense mechanisms, which function as distortions of reality (Klein, 1946). With contributions of object relations psychologists, the focus in the conceptualization of defense mechanisms shifted from handling conflicts between the parts of the structural model to handling conflicts regarding internalized object representations. Kernberg (1967), correspondingly, defined defense mechanisms as including internal representations of objects; yet more, he tried to integrate former ego-psychological approach with the object-relational approach to defense mechanisms while he emphasized the significance of defense mechanisms as diagnostic tools. Another pioneer, Heinz Kohut (1984) posited that defense mechanisms function to protect self by keeping unacceptable material out of awareness. A more recent contribution was made by Phebe Cramer, who takes a developmental approach to the study of defense mechanisms. Cramer (2004) offers a comprehensive view on defense mechanisms, in which she defined defense mechanisms as operating unconsciously against the threats of pressures, both internal and external. According to her view; defense mechanisms operate to protect the person from pathological anxiety and to maintain both self-esteem and structure of the self, but, excessive use of them would be associated with pathology (Cramer, 2004).

1.6.2. Categorization of Defense Mechanisms

As mentioned above, quite a few psychologists contributed to the conceptualization of defense mechanisms and some of them introduced new defense mechanisms to the literature. However, there is no consensus regarding the total number of defense mechanisms and their classifications. But still, researchers show a common agreement on hierarchical nature of defenses although they differ in how they define categories (Cramer, 2004).

Laughlin (1970) categorized defense mechanisms into two; primitive (primary) and defensive (secondary) processes respectively. Vaillant (1977), on the other hand, categorized defense mechanisms into four from the least adaptive and most reality-distorting to most adaptive and least reality-distorting as psychotic, immature, neurotic, and mature defense mechanisms, respectively. He grouped delusional projection, denial, and distortion under psychotic mechanisms; projection, schizoid fantasy, hypochondriasis, passive-aggressive behavior, acting out, and dissociation under immature mechanisms; whereas isolation, intellectualization, repression, displacement, and reaction formation under neurotic defense mechanisms; and altruism, suppression, anticipation, sublimation, and humor under mature defense mechanisms (Hentschel et al., 2004).

Nancy McWilliams (1994) grouped defense mechanisms in 2 categories: primary defense mechanisms referring to primitive withdrawal, omnipotent control, denial, primitive idealization and devaluation, projection, introjection, projective identification, dissociation, splitting of the ego; and secondary defense mechanisms referring to isolation, moralization, compartmentalization, repression, regression, undoing, reversal, reaction formation, turning against the self, intellectualization, rationalization, displacement, acting out, identification, sexualization, and sublimation.

With a revision on the categorization of defense mechanisms suggested by Bond, Gardner, Christian, and Segal (1983), Andrews, Sigh, and Bond (1993) divided defense mechanisms into three main categories called "defense styles": immature, neurotic, and mature. In this study, defense mechanisms will be assessed in the light of this categorization as their assessment is reported to be best option due to the validity and reliability (Soultanian, Dardennes, Mouchabac, & Guelfi, 2005). Immature defense mechanisms are acting out, autistic fantasy, denial, devaluation, displacement, dissociation, isolation, passive-aggression, projection, rationalization, splitting, and somatization. Neurotic defense mechanisms are idealization, pseudo-altruism, reaction

formation, and undoing. Mature defense mechanisms are anticipation, humor, sublimation, and, suppression.

1.6.3. Immature Defense Mechanisms and Well-being

As defense mechanisms operate unconsciously to protect the person from anxiety and distress triggered by internal and external stressors, they also shape the way a person perceives the external reality and the way s/he experiences the self and the others. Immature defense mechanisms mentioned above are regarded as primitive forms of defense mechanisms, which distort contact with the external reality and therefore prove inadequate in helping the person to deal with the external reality successfully.

In one of the first studies which adopt the quantitative measurement of defense styles, Vaillant (1971, 1977) demonstrated that the use of immature defense mechanisms was negatively correlated with lifetime adjustment. He also found the frequent use of immature defense mechanisms to be associated with psychopathology such as depression and anxiety disorders (Vaillant, 1977). Consistent with Vaillant's study (1977), Spinhoven and Kooiman (1997) found that immature defense style was relied upon more by the patients with depressive disorders and anxiety disorders, rather than by those who were in the control group. Findings of a study conducted by Besser (2004) indicated an association between the extensive use of immature defense mechanisms and vulnerability to depression. Another study revealed that the use of immature defenses was related to the occurrence of suicide attempts in patients diagnosed with major depressive disorder (Corruble, Bronne, Falissard, & Hardy, 2004).

The use of immature defense style was found to be negatively associated with both happiness and life satisfaction levels (Lyke, 2016). Moreover, in comparison to other two defense styles, the use of immature defense style came to the front as having the strongest relationship with both positive aspects of life experience. Regarding self-

esteem, the use of immature defense mechanisms was found to be linked with self-esteem instability, suggesting that individuals who experience greater self-esteem instability adopt higher levels of the use of immature defense mechanisms (Zeigler-Hill, Chadha, & Osterman, 2008).

In line with the current views on defense mechanisms, findings presented above suggest that not only the mere use of immature defense mechanisms, but also the excessive reliance on them may signal impaired psychological functioning (Cramer, 2004). Given that each person relies unconsciously on various defense mechanisms in daily life, it is important to explore defense mechanisms within Instagram context, as it has become an integral part of daily life of many people and as it is associated with certain corelates of psychological well-being.

1.7. CURRENT STUDY

Social media use is growing to be an integral part of daily life; subsequently, there has been an ongoing debate about the relationship between social media use and psychological well-being. While some research suggested a positive relationship between social media use and psychological well-being (Burke & Kraut, 2013; Kim & Lee, 2011; Ellison et al., 2007; Valenzuela et al.,, 2009); an association between social media use and decline in well-being was also indicated by some other studies (Kross et al., 2013; Shensa, Escobar-Viera, et al., 2017; Woods & Scott, 2016). Hence, the relationship between social media use and psychological well-being remains unclear despite mounting interest in research related to this. Although there is a substantial body of research in social media literature, especially with an emphasis on Facebook, studies on Instagram use and its psychological corelates are relatively scarce and newly developing. Literature to date revealed Instagram use to be associated with various psychological well-being variables such as depressive symptoms (Lup et al., 2015), social comparison (de Vries et al., 2018), appearance-related comparisons and body dissatisfaction (Hendrickse et al., 2017), and negative mood (Brown & Tiggeman,

2016). However, the picture is far from clear and an in-depth understanding is needed considering Instagram's immense popularity.

The foremost aim of the current study is to examine the relationship between different aspects of Instagram use and psychological well-being among young adults, as young adults constitute the majority of Instagram users in Turkey (*Global Digital Report 2019*, n.d.). The current study will specifically focus on the time spent by passive browsing on Instagram and the percentage of strangers that are followed as aspects of Instagram use, since existing literature illustrates the need for an in-depth investigation of these aspects, which are associated with potential dangers to well-being. Since current conceptualizations of psychological well-being blends the eudaimonic and the hedonic perspectives; a combined approach to assess psychological well-being will be adopted, which will focus on distinct aspects of human actualization and life satisfaction.

As discussed above, social media use has been associated with increased feelings of stress (Maier, Laumer, Eckhardt, & Weitzel, 2012). Therefore, defense mechanisms are included in the current study as they are thought to be relevant in dealing with the internal stress within this context. Moreover, social media is suggested to be able to trigger envy feelings (Krasnova et al., 2013), which in turn can cause impairment to psychological well-being. Thus, envy is assumed in the current study as a relevant concept to consider while examining the relationship between different aspects of Instagram use and psychological well-being. Consequently, this study proposes immature defense style as a possible moderator and Instagram envy as a possible mediator of the expected associations between different aspects of Instagram use and psychological well-being among young adults.

To the best of the author's knowledge, no work up to now has focused on the possible mediating roles of preferred defense mechanisms and envy between different aspects of Instagram use and psychological well-being. So, this study aims to contribute to the literature by offering an affect – defense perspective.

Within the scope of this study, following hypotheses are specified:

1. The time spent by passive browsing using Instagram will be negatively correlated with psychological well-being.

2. The time spent by passive browsing using Instagram will be positively correlated with Instagram envy and immature defense use.

3. The association between the time spent by passive browsing using Instagram and psychological well-being will be mediated by Instagram envy.

4. The association between the time spent by passive browsing using Instagram and psychological well-being will be moderated by immature defense use.

5. The number of strangers followed on Instagram will be negatively correlated with psychological well-being.

6. The number of strangers followed on Instagram will be positively correlated with Instagram envy and immature defense use.

7. The association between the number of strangers followed on Instagram and psychological well-being will be mediated by Instagram envy.

8. The association between the number of strangers followed on Instagram and psychological well-being will be moderated by immature defense use.

CHAPTER 2
METHOD

2.1. PARTICIPANTS

This study aimed to understand the association between Instagram use and psychological well-being among young adults; hence, the sample of this study was restricted to individuals between ages 18 and 30, who identify themselves as Instagram users. Initially, a total number of 1101 individuals responded to the online survey on a voluntary basis, and 596 participants completed the questions. Due to invalid responses and very extreme outliers (>7 SD above or below the sample mean on any variable), 86 cases were removed. Thus, the final sample consisted of 510 participants who were 18-30 years old, identified themselves as Instagram users, and completed all measures of interest.

The mean age for participants was approximately 24 years ($M = 24.35$, $SD = 3.25$). Of the sample, 376 identified their gender as female (73.7%), 128 as male (25.1%) and 2 ($<1\%$) as other, and 4 participants ($<1\%$) preferred not to disclose.

The sample was highly educated; 197 participants (38.6%) were BA students, 120 (23.5%) were BA graduates, 4 ($<1\%$) were BA drop-outs, 89 (17.5%) were MA students, 39 (7.6%) were MA graduates, 7 (1.4%) were MA drop outs, 33 (6.5%) were PhD students, 2 ($<1\%$) were PhD graduates, whereas only 19 participants (3.7%) defined their education level as high school or below. Students were from various departments such as psychology, sociology, physiotherapy and rehabilitation, medicine, law, and engineering.

The percentage of participants who reported to be unemployed was 54.7%, while 45.3% reported that they were currently working. There were wide variety of occupations such as psychologist, economist, architect, teacher, and engineer. In terms of socio-economic status, 4.9% of the participants defined their socio-economic status as low, 17.3% of the participants defined as low-middle, 52.5% of the participants

defined as middle, 23.5% of the participants defined middle-high and 1.8% of the participants defined their socio-economic status as high.

As to their relationship status, 49.4% of the participants reported to be in a relationship; while 47.8 % had no relationship and 2.7% identified their relationship status as other. Regarding marital status, 448 participants (87.8%) were single, 59 (11.6%) were married, and 3 (0.6%) were divorced. Of the participants of this study, 42.2% was living with their families and/or siblings, followed by 22.9% living with friends, 14.7% living alone, 10.8% living with spouse and/or children, 6.1% living with their partners, and 3.3% living with their relatives.

2.2. INSTRUMENTS

The instruments used in this research consisted of an Informed Consent Form (See Appendix A), Demographic Information Form, an Instagram Use Form, the Instagram Envy Scale, Defense Style Questionnaire (DSQ), Satisfaction with Life Scale (SWLS) and Scales of Psychological Well-Being (SPW).

2.2.1. Demographic Information Form

The form includes questions as regards the participants' age, gender, level of education, occupation, working status, perceived socioeconomic level, living situation, relationship status, and marital status (See Appendix B).

2.2.2. Instagram Use Form

The Instagram Use Form is generated by the researcher based on the literature review of Instagram use and its features. The form includes questions about how many Instagram accounts the participants have and for which purposes they use them (e.g.

for personal use, for commercial use, for stalking), and which privacy setting they set for their account (e.g. protected account, open to public access account).

The form also includes questions about how long participants have been using Instagram, about the frequency and duration of Instagram use per day, besides details about the approximate number of the content they shared, the comments, and likes their content receive. There are also questions as regards the number of participants' followers and of people whom participants follow (people they know personally vs. strangers). Additionally, the degree of satisfaction with using Instagram and the level of importance of Instagram features were asked to participants.

Moreover, in order to gain insight about their specific behaviors on Instagram, participants were also asked to rate in a 5-point Likert scale how often they use different aspects (See Appendix C). Activities which were asked to participants included checking Instagram feed without liking or commenting on any content; checking profiles of others; watching stories or lives others share; sharing any content, story or live; sending messages to others; liking and commenting on the content others share; to follow and to unfollow someone; to accept or reject a follower request; to block someone. As this is the first study to measure Instagram behavior, a Principal Components Analysis was conducted to identify different dimensions of Instagram use. The details of this analysis will be presented in Results section. In sum, 5 factors that summarize the Instagram behavior of the participants were identified as Management of Account, Interaction with Strangers, Non-Interactive Surveillance, Liking, and Live Activities. Internal consistencies for the items that comprise these dimensions as checked by Cronbach's Alpha ranged between .52 and .76. For the dimensions with alpha levels higher than .6, factor scores were calculated by taking the mean of the relevant items (See Results section).

2.2.3. Instagram Envy Scale

Tandoc, Ferrucci, and Duffy (2015) integrated the items used in different studies operationalizing envy in social media platforms to develop a scale of Facebook Envy. The scale consists of 7 statement items to rate on a 5-point Likert scale. Last item was reverse coded when computing the final score of the scale. For the scale of Facebook Envy, the Cronbach alpha value was found as .78.

For the adaptation of this Facebook Envy Scale to Instagram Envy Scale, the researcher changed the "Facebook use" phrase in the instruction to "Instagram use," and translated the items to Turkish. The Turkish items were back-translated by a person who is fluent in both English and Turkish. One minor revision was made after the back-translation, and the final version was sent to 3 experts to comment on the clarity and cultural appropriateness of the items. No revision was suggested by the experts (See Appendix D). A pilot study was done for the Turkish version of the scale with a convenience sample of 53 undergraduate students at Istanbul Bilgi University. Only the demographic information form and Instagram Envy scale were administered during the pilot study. Reliability analysis revealed the Cronbach alpha for the Turkish items with an instruction to consider Instagram use to be .82.

2.2.4. Defense Style Questionnaire

The Defense Style Questionnaire (DSQ) was developed by Andrews, Singh and Bond (1993), to assess the use of 20 distinct defense mechanisms collected under three dimensions of immature, neurotic, and mature. Defense mechanisms included in immature defense style are acting out, autistic fantasy, denial, devaluation, displacement, dissociation, isolation, passive aggression, projection, rationalization, somatization, and splitting. Defense mechanisms included in neurotic defense style are pseudoaltruism, idealization, reaction formation, and undoing. Mature defense style consists of sublimation, humor, anticipation and suppression. The Defense Style

Questionnaire (DSQ) consists of 40 self-report items to rate on a 9-point Likert scale where 1 indicates "strongly disagree" and 9 indicates "strongly agree". The internal consistency values were reported as .80, .58, .68 for Immature, Neurotic, and Mature defense styles, respectively.

The Defense Style Questionnaire (DSQ) was adapted into Turkish by Yılmaz, Gençöz, and Ak (2007). The Turkish version of the scale (See Appendix E) has psychometric properties similar to those obtained in the original study. Specifically, .83, .61 and .70 were reported as Cronbach's Alpha values for Immature, Neurotic, and Mature defense styles, respectively.

2.2.5. Satisfaction with Life Scale

Originally developed by Diener, Emmons, Larsen, and Griffin (1985), the Satisfaction with Life Scale (SWL) consists of 5 statements, rated on a 7-point Likert scale, where higher scores indicate greater life satisfaction. The Satisfaction with Life Scale (SWL) has adequate psychometric properties; with the Cronbach alpha value found to be .87, and test-retest reliability to be .82.

The adaptation of the Satisfaction with Life Scale into Turkish was carried out by Köker (1991). The Turkish version of the scale (See Appendix F) also yielded a high internal consistency as indicated by the Cronbach's Alpha coefficient of .81, and high test-retest reliability as .85.

2.2.6. The Scales of Psychological Well-Being

The Scales of Psychological Well-being, developed by Ryff (1989), offers a 6-dimensional, eudaimonic view on psychological well-being; dimensions being Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-Acceptance. Though the initial model included 120 items, shorter versions with 84, 42, and 18 items have been derived from it. To assess the

eudaimonic aspect of well-being, 42-item version of Scales of Psychological Well-Being was used in the current study.

The 42-item version of The Scales of Psychological Well-Being is a self-report measure which assesses the six dimensions mentioned above. Subscales for each dimension consists of 7 items to rate on a 6-point Likert Scale that ranges from "strongly disagree" to "strongly agree." Like the original model, 42-item version of Scales of Psychological Well-Being include positively and negatively phrased items. Prior to obtaining a total score, negatively phrased items are reverse coded, so that all items are in the same direction. Thus, the lowest score of this version is 42 whereas the highest score is 252, with higher values indicating high levels of well-being. Ryff's (1989) measure has factorial validity, high internal consistency and high criterion-related validity.

The 42-item version of The Scales of Psychological Well-Being was adapted into Turkish by Akın, Demirci, Yıldız, Gediksiz, & Eroğlu (2012) through a study with 1048 university students. Turkish 42-item version of The Scales of Psychological Well-Being had a high level of internal consistency; Cronbach's alpha for the total scale scores was .87. In the confirmatory factor analysis, fit index values were found as $\chi 2 =$ 2689.13, *SD* = 791, RMSEA = .048, NFI = .92, NNFI = .94, CFI = .95, IFI = 95, RFI =.92, GFI = .90, SRMR = .048.

2.3. PROCEDURE

Data collection process started after obtaining the approval from the Ethics Committee Board of Istanbul Bilgi University. An informed consent form and all instruments were uploaded to SurveyMonkey platform, through which all data was collected. The survey link was distributed via e-mail and a call for recruitment was posted on the researcher's social media accounts, which was then shared by other users. Finally, a total of 1101 participants were reached.

Participants were initially presented an Informed Consent Form (See Appendix G) that briefly explained the aim of the study, stated the criteria for participation and specified that the participation is voluntary; besides noting the confidentiality of the data, participants' right to quit at any point and researcher's e-mail address to reach in any case related to the study.

Upon their approval of the Informed Consent Form, the instruments listed above were presented in the same order to all participants: The Demographic Form, Instagram Use Form, Instagram Envy Scale, Defense Style Questionnaire, Satisfaction with Life Scale, and Scales of Psychological Well-Being. It took approximately 15 minutes to complete the survey.

CHAPTER 3
RESULTS

The results section of the current study includes 4 main parts. First, the development process of Instagram Use Scale will be presented. Second, descriptive statistics for the study variables and the scales will be presented prior to the analyses relevant to study hypotheses. Third, preliminary analyses will be reported. Then, the results of the analyses relevant to study hypotheses will be presented, followed by further exploratory analyses.

3.1. DEVELOPMENT OF INSTAGRAM USE SCALE

Instagram Use Scale was developed by the researcher to identify different aspects of behaviors that individuals frequently do on Instagram. As mentioned in the Instruments section, 21 items were generated based on the functions provided by Instagram and on literature review.

A Principal Components Analysis with Direct Oblimin with Kaiser Normalization rotation was conducted. An oblique rotation method was preferred to allow for correlations among factors. As KMO value was .762 and Bartlett's test of sphericity was significant, $\chi2(210) = 2493.128$, p = .000, the data was suggested to be suitable for this analysis. A five-component solution was conducted based on the scree plot and eigenvalues. This component composition explained 51% of total variance, and was found to be statistically and theoretically fitting. Items that comprise each factor were initially evaluated based on factor loadings, and 4 items that had loadings below .50 were eliminated. The remaining items were then semantically examined to see whether they represented a coherent theme or not. Factor structure is presented in Table 3.1. Loadings below .5 were suppressed in the Table.

Table 3.1. *Factor Structure of Instagram Use Scale*

		Component				
		1	2	3	4	5
10	Sharing content on the profile	.682				
11	Sharing story	.627				
21	Blocking someone	.624				
19	Following/Unfollowing someone	.531				
20	Accepting/Rejecting a follower request	.501				
7	*Commenting on the content of an acquaintance followee**					
18	Sending messages to a stranger that is not followed		.746			
17	Sending messages to a stranger followee		.687			
8	Commenting on the content of a stranger followee		.615			
9	Commenting on the content of a stranger that is not followed		.583			
14	Browsing the profile of a stranger followee			.725		
15	Browsing the profile of a stranger that is not followed			.713		
13	Browsing the profile of an acquaintance followee			.671		
2	*Watching stories of others**					
16	*Sending messages to an acquaintance followee**					
3	Watching "live" broadcast of others				.800	
12	Broadcasting "live"				.723	
5	Liking the content of a stranger followee					.743
4	Liking the content of an acquaintance followee					.637
6	Liking the content of a stranger that is not followed					.636
1	*Scrolling through Feed***					*-.504*

* Item excluded due to < .50 factor loading

** Exclusion of the item increases internal consistency of the component

Items of each component were interpreted collectively, and components were named in the light of the relevant literature. The first component, named "Management of Account," included 5 items regarding sharing any content, blocking someone, sharing story, un/following someone, and accepting/rejecting a follower request. The second component, named "Interaction with Strangers," included 4 items regarding sending messages to strangers and commenting on the content shared by strangers. The third component "Non-interactive Surveillance," included 3 items regarding checking profiles of others. The fourth component "Live Activities" included 2 items regarding sharing and watching "live" content. The final component, labeled "Liking" included 3 items directly regarding liking the content others share and an item (Item 1) with an inverse loading that refers to browsing without liking. Item 1 was thought to be semantically more related to the third component "Non-interactive Surveillance," yet it had a lower loading (.456) to that factor that would not warrant its inclusion. Item 1 was reverse coded for internal consistency calculations.

The internal consistencies of the components were evaluated using Cronbach's Alpha. A summary of the final version of the components are presented in Table 3.2.

Table 3.2. *Information about Components of Instagram Use Scale*

Component Label	No. of Items	Items included	Cronbach's Alpha
1. Management of Account	5	10, 11, 19, 20, 21	.66
2. Interaction with Strangers	4	8, 9, 17, 18	.73
3. Non-interactive Surveillance	3	13, 14, 15	.76
4. Live Activities	2	3, 12	.52
5. Liking	3	4, 5, 6	.62

The alpha values for Management of Account (α = .66), Interaction with Strangers (α = .73), and Non-interactive Surveillance (α = .76), were acceptable. Live

Activities was comprised of just 2 items, thus yielded a low consistency (α = .52) that could not have been further improved by any item exclusion. The coefficient for Liking was initially calculated using all 4 items and was found to be .58. As it increased alpha to .62, Item 1 was eliminated from this component.

For total scores, means of the items included in that component were calculated and descriptive statistics are presented in the next section with other study variables. Live Activities were not included in further descriptions and analyses due to its low reliability.

3.2. DECRIPTIVE STATISTICS

Scores for each variable were computed as instructed by the authors. Before the main analyses, descriptive statistics were investigated and the reliability analyses for scales were conducted in order to assess the internal consistency of the measures for the current study. Further, in order to identify possible controls for hypothesis testing, the associations between each study variable and participant characteristics of age, gender, and relationship status were checked. Pearson Correlation Coefficients were calculated for Age and separate Independent Samples t-tests were calculated for Gender and Relationship Status.

3.2.1. Instagram Use: Descriptive Statistics and Association with Demographics

In order to provide a general portrayal of the sample's Instagram use, questions regarding their accounts and account features, frequency of certain behaviors, preferences of certain features, and overall satisfaction were asked. As to their accounts, 373 participants (73.1%) reported having only one Instagram account; among them, 349 had a personal account with real identity information, 18 had a personal account with a nickname, 3 had a commercial account whereas 2 identified type of their accounts as other. Besides, 107 (21%) participants were using 2 Instagram accounts;

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12 participants had two personal accounts with identity information, 2 had two personal accounts with a nickname, 30 had a personal account with identity information and another one with a nickname, 28 had both a personal account with identity information and a commercial account, 23 had a stalk account and a personal account with identity information whereas 8 had another account in addition to a personal account with identity information. A small number of participants (23; 4.5%) reported having 3 accounts, while only 7 (1.4%) reported having 4 accounts.

Most of the participants preferred to set their accounts private (82.7%) rather than public (17.3%). Amount of time since when participants started using Instagram, ranged from 1 month to 100 months, with a mean of 51.64 ($SD = 21.95$). Daily frequency of using Instagram ranged from 1 time to 100 times ($M = 12.19$, $SD = 12.58$). Average time participants spend on Instagram per day was approximately 62 minutes ($M = 61.68$, $SD = 47.45$), ranging from 1 minute to 5 hours; 8.4% of the sample reported using Instagram for 10 minutes and less per day, 25.9% for 11-30 minutes, 36.5% for 31-60 minutes, 21.7% for 61-120 minutes and 7.5% for more than 2 hours per day.

On average; participants had 88 posts on their profiles ($M = 87.88$, $SD = 97.03$), which get approximately 98 likes ($M = 98.11$, $SD = 62.13$) and 4 comments ($M = 3.76$, $SD = 3.31$). Average number for participants' followers was 380 ($M = 379.84$, $SD = 241.77$) and approximately 19% of their followers were strangers to participants; whereas average number for participants' followees was 420 ($M = 420.06$, $SD = 239.44$) and approximately 28% of their followees were strangers to participants.

Regarding the dimensions that define their Instagram behavior as measured by the Instagram Use Scale described in the previous section, participants reported engaging in Management of Account activities occasionally ($M = 2.75$, $SD = 0.56$); in Interaction with Strangers rarely ($M = 1.30$, $SD = 0.38$), in Non-Interactive Surveillance occasionally ($M = 2.70$, $SD = 0.75$), and in Liking frequently ($M = 2.91$, $SD = 0.72$).

Almost half of the participants (48.6%) reported being satisfied with using Instagram, and 28 (5.5%) reported being very satisfied with using Instagram. On the other hand, 60 participants (11.8%) were dissatisfied, and 16 (3.1%) were very dissatisfied with using Instagram. Remaining 158 participants (31%) reported being indecisive about the degree of their satisfaction with Instagram use.

Age had low yet significant negative correlations ranging between -.128 and -.258 with most Instagram use variables such as number of daily visits, daily duration, average number of likes, Non-Interactive Surveillance and Liking. On the other hand, as ages of the participants increased from 18 to 30, number of their posts significantly increased, $r(510) = .352$, $p < .01$, and Interaction with Strangers, $r(510) = .124$, $p < .01$.

Regarding gender, women reported to have a higher daily duration of average 65.24 minutes ($SD = 47.47$) as compared to men with an average of 49 minutes ($SD = 43.63$), $t(502) = -3.338$, $p = .001$; again, a higher number of posts with an average of 97 ($SD = 98$) than men with an average of 61 posts ($SD = 88$), $t(502) = -3.636$, $p = .000$. There was also a slight yet significant difference between women ($M = 2.82$, $SD = 0.54$) and men ($M = 2.55$, $SD = 0.54$) regarding their frequency of engaging in Management of Account Behavior, $t(502) = -4.910$, $p = .000$.

Lastly, relationship status was found to be significantly associated with number of posts, $t(500) = 2.624$, $p = .009$; proportion of the stranger followers, $t(500) = -2.572$, $p = .010$; Interaction with Strangers, $t(500) = -2.311$, $p = .021$; and Liking, $t(500) = -3.460$, $p = .001$. Number of posts were reported to be higher for participants who were engaged in a relationship ($M = 99.23$; $SD = 101.09$) as compared to

singles ($M = 76.52$; $SD = 92.29$). On the other hand, singles reported higher levels of stranger followers (21%), interaction with strangers ($M = 1.33$) and liking ($M = 3.00$) as compared to individuals in a relationship (16%, $M = 1.25$, and $M = 2.79$, respectively).

3.2.2. Well-Being: Descriptive Statistics and Association with Demographics

The 42-item version of The Scales of Psychological Well-Being yielded good internal reliability; Cronbach's alpha was found to be .91 for the total score and ranged between .65 and .79 for the subscales. The Cronbach's alpha value was found to be .85 for the total score of the Satisfaction with Life Scale. The validity of both scales was supported by the positive correlation with each other, $r(510) = .62$, p < .01.

The mean global life satisfaction score was 21.35 (SD = 6.28). Of the participants, 29.5% were satisfied or extremely satisfied with their current lives whereas 16.3% of the participants were dissatisfied or extremely dissatisfied with their current lives. The mean global score for The Scales of Psychological Well-Being was 173.72 (SD = 24.61). Detailed statistics are presented in Table 3.3.

Table 3.3. *Descriptive Statistics of Satisfaction with Life and Psychological Well-Being Scales*

	M	*SD*	Min.	Max.
Satisfaction with Life	21.35	6.28	5	34
The Scales of Psychological Well-Being	173.72	24.61	80	236
Autonomy	27.13	5.19	8	40
Environmental Mastery	27.12	5.17	11	40
Personal Growth	31.23	5.30	12	42
Positive Relationships	31.17	6.01	11	42
Purpose in Life	29.54	5.55	10	42
Self-Acceptance	27.53	6.04	7	42

There were no significant differences between women (Life Satisfaction: M = 21.73, SD = 6.19; Scales of Well-Being: M = 174.71, SD = 24.43) and men (Life

Satisfaction: M = 20.52, SD = 6.19; Scales of Well-Being: M = 171.03, SD = 24.76) in terms of their well-being measured by both these scales separately (Life Satisfaction: $t(502)$ = -1.920, p = .055; Scales of Well-Being: $t(502)$ = -1.467, p = .14). However, there were significant differences between participants in a relationship (Life Satisfaction: M = 22.29, SD = 6.19; Scales of Well-Being: M = 178.33, SD = 24.22) and those in no relationship (Life Satisfaction: M = 20.46, SD = 6.17; Scales of Well-Being: M = 169.32, SD = 23.75) in terms of their well-being measured by both these scales (Life Satisfaction: $t(500)$ = -3.320, p < .01; Scales of Well-Being: $t(500)$ = -4.21, p < .01).

A composite well-being variable (M = .04, SD = 1.77) was generated by summing the means for standardized values of each measure. Regarding this composite score for well-being, there was no significant difference between women (Composite Well-Being: $AdjM$ = .13, SD = 1.74) and men (Composite Well-Being: $AdjM$ = -.20, SD = 1.77), $t(502)$ = -1.885, p = .06. Moreover, there was a significant difference between participants in a relationship (Composite Well-Being: $AdjM$ = -.37, SD = 1.77) and those in no relationship (Composite Well-Being: $AdjM$ = -.28, SD = 1.68), $t(500)$ = -4.20, p < .01. Age is also positively correlated with the composite score, $r(510)$ = .177, p = .000.

3.2.3. Instagram Envy: Descriptive Statistics and Association with Demographics

As also reported in the previous Method section, The Cronbach's alpha value was found to be .82 for the total score of the Instagram Envy Scale. The participants reported moderate levels of Instagram envy (M = 19.28, SD = 5.61), ranging from 7 to 34; with 98 participants (19.2%) having a score less than 15, with 49 participants (9.6%) having a score more than 27.

An independent t-test showed a highly significant difference in the Instagram envy level between women and men, $t(502)$ = -2.719, p < .01., with women showing a higher level of Instagram envy (M = 19.64, SD = 5.53) than men (M = 18.10, SD =

5.55). There was also a significant difference in the scores of participants in a relationship (M = 18.23, SD = 5.32) and those in no relationship (M = 20.25, SD = 5.60), $t(500)$ = 4.13, p < .01. On the other hand, as age increased towards 30, Instagram Envy decreased, $r(510)$ = -.172, p = .000.

3.2.4. Immature Defense Use: Descriptive Statistics and Association with Demographics

The Immature Defense Style subscale yielded an acceptable reliability; with alpha coefficient being .75. In the analyses, Immature Defense Style was treated as a continuous variable, with higher scores indicating more frequent and/or intense use immature defense mechanisms. Descriptive statistics of Immature Defense Style are presented in Table 3.4.

Table 3.4. *Descriptive Statistics of Immature Defense Style*

	M	SD	Min.	Max.
Immature Defense Style	4.05	0.97	1	8
Projection	4.12	1.83	1	9
Passive Aggression	3.65	1.83	1	9
Acting Out	4.44	2.05	1	9
Isolation	4.20	2.16	1	9
Devaluation	3.57	1.68	1	9
Autistic Fantasy	4.22	1.87	1	9
Denial	3.12	1.55	1	9
Displacement	4.05	2.00	1	9
Dissociation	3.31	1.70	1	9
Splitting	3.95	2.14	1	9
Rationalization	4.52	1.61	1	9
Somatization	5.43	2.03	1	9

The mean score for Immature Defense Style was 4.05 ($SD = 0.97$); with the use of somatization being the most frequent and/or intense ($M = 5.43$, $SD = 2.03$) and the use of denial being the less frequent and/or intense ($M = 3.12$, $SD = 1.55$).

There was no significant difference between women ($M = 4.04$, $SD = 1.00$) and men ($M = 4.06$, $SD = 0.91$) in terms of the frequency and/or intensity of preference for immature defenses; $t(502) = -.162$, p > .05. Yet, there was a significant difference in the scores of participants in a relationship and those in no relationship, $t(500) = 3.39$, p < .01, with participants in a relationship ($M = 3.90$, $SD = .95$) showing a lower level of the frequency and/or intensity of preference for immature defenses than participants in no relationship ($M = 4.20$, $SD = .98$). Age and Immature defenses were significantly negatively correlated, $r(510) = -.189$, p = .000.

3.3. ANALYSES PERTAINING TO HYPOTHESES

Since a separate factor regarding passive browsing on Instagram did not emerge in the factor analysis explained above, but a similar factor regarding browsing others' profiles without interaction emerged; "the time spent by passive browsing using Instagram" in the relevant hypotheses was modified to "Non-interactive Surveillance" on Instagram. Moreover, the number of strangers that are followed was modified to the "Percentage of Strangers Followed," calculated as the proportion of the strangers to the total number of accounts followed. All associations between Instagram use aspects, well-being, Instagram envy and immature defense mechanism use were explored through Pearson correlation analyses in order to check the relationships which could not have been foreseen.

Current study expected negative correlations between psychological well-being and both Non-interaction Surveillance (Hypothesis 1) and Strangers Followed (Hypothesis 5). Instagram Envy and Immature Defense Style were expected to be positively correlated with both Non-interaction Surveillance (Hypothesis 2) and Strangers Followed (Hypothesis 5). These correlational hypotheses, as well as any

unforeseen associations among variables were tested using Pearson Correlation Coefficients (See Table 3.5). This study further expected these correlations to be mediated by Instagram Envy (Hypotheses 3 and 7) and moderated by Immature Defense Style (Hypotheses 4 and 8). In order to test these hypotheses, interaction terms were computed and models were tested via Hierarchical Regression Analysis. As outlined above, since many of these variables were significantly associated with age, gender and relationship status, they were also included in the models. In the final step, based on the previous analyses, two models were formulated and tested via Structural Equation Modeling in order to shed light on the mediational role of Instagram Envy.

Table 3.5. *Pearson Correlation Coefficients*

	% of Strangers Followed	Management of Account	Interaction with Strangers	Non-Interaction Surveillance	Liking
Instagram Envy	.100[*]	.058	.055	.197[**]	.128[**]
Immature Defense Style	.047	.113[*]	.075	.093[*]	.180[**]
Life Satisfaction	-.092[*]	.052	-.007	.048	-.067
Psychological Well-Being	-.077	.067	-.084	-.047	-.124[**]
Composite Well-Being	-.094[*]	.066	-.051	.00	-.106[*]

3.3.1. Association between the Time Spent by Passive Browsing Using Instagram and Psychological Well-Being

The first hypothesis of this study expected a negative correlation between the time spent by passive browsing using Instagram and psychological well-being,

measured by the composite well-being score. As a separate factor regarding passive browsing on Instagram did not emerge, the first hypothesis could not be tested. Nonetheless, because a similar factor called "Non-interactive Surveillance" emerged based on the literature, the first hypothesis was modified to "The time spent by non-interactive surveillance activities on Instagram will be negatively correlated with psychological well-being." To test this relationship, Pearson correlation analysis was conducted.

Contrary to the hypothesis, the level of engagement in non-interactive surveillance activities on Instagram, measured by Instagram Use Scale, had no significant positive correlation with the well-being, measured by the composite score, $r(510) = .000$, p = .996.

3.3.2. Associations between the Time Spent by Passive Browsing Using Instagram and Instagram Envy, and Immature Defense Use

In line with the case of first hypothesis, the second hypothesis was modified to "The time spent by non-interactive surveillance activities on Instagram will be positively correlated with Instagram envy and immature defense use" as the expected variable regarding passive browsing on Instagram did not emerge. This hypothesis was tested using Pearson correlation analysis on participants' scores on Non-interactive Surveillance Subscale in Instagram Use Scale, on Instagram Envy Scale and Immature Defense Style in Defense Style Questionnaire.

In line with the hypothesis, there was a significant positive correlation between the level of non-interactive surveillance activities on Instagram and the level of Instagram envy, $r(510) = .197$, p = .000; suggesting that more engagement in non-interactive surveillance activities on Instagram is associated with higher levels of Instagram envy. However, the correlation between the level of non-interactive surveillance activities on Instagram and the level of immature defense use was quite weak, $r(510) = .093$, p = .037.

3.3.3. Association Between the Percentage of Strangers That are Followed on Instagram and Psychological Well-Being

The fifth hypothesis of this study expected a negative correlation between the percentage of strangers that are followed on Instagram and psychological well-being, measured by the composite score. To test this relationship, Pearson correlation analysis was conducted.

As hypothesized, the percentage of strangers that are followed on Instagram had a significant, but quite weak, negative correlation with the psychological well-being, measured by the composite score; $r(510) = -.094$, p = .034. This correlation suggests that following more strangers on Instagram is associated with slightly decreased levels of psychological well-being.

3.3.4. Association Between the Percentage of Strangers That Are Followed on Instagram and Instagram Envy, and Immature Defense Use

The sixth hypothesis of this study expected that the percentage of strangers that are followed on Instagram will be positively correlated with Instagram envy and immature defense use. This hypothesis was tested using Pearson correlation analysis on the percentage of strangers that are followed on Instagram, and on the scores of Instagram Envy Scale and Immature Defense Style in Defense Style Questionnaire.

In line with the hypothesis, there was a significant positive correlation between the percentage of strangers that are followed on Instagram and the level of Instagram envy, $r(510) = .100$, p = .023; suggesting that following more strangers on Instagram is associated with is associated with higher levels of Instagram envy. Yet, analysis did not reveal a significant correlation between the percentage of strangers that are followed on Instagram and the level of immature defense use, $r(510) = .047$, p = .290.

3.3.5. Associations Between the Time Spent by Passive Browsing Using Instagram, The Percentage of Strangers That are Followed and Psychological Well-Being, Instagram Envy, and Immature Defense Use

The third and fourth hypotheses expected Instagram Envy to be the mediator and Immature Defense Style to be the moderator for the associations between the time spent by passive browsing using Instagram and the composite psychological well-being score. In line with the case of first two hypotheses, "Non-interactive Surveillance" replaced "the time spent by passive browsing using Instagram" again. The seventh and eight hypotheses expected Instagram Envy to be the mediator and Immature Defense Style to be the moderator for the associations between the percentage of strangers that are followed and the composite psychological well-being score.

Previous Pearson correlation analyses mentioned above suggest the level of non-interactive surveillance activities on Instagram to be positively related with Instagram envy; moreover, the percentage of strangers that are followed to be negatively related with the composite psychological well-being score and to be positively related with Instagram envy. Hence, mediation models could be assumed for further analyses. However, moderation models were not supported as preliminary analyses mentioned above revealed immature defense use to be not related with the level of non-interactive surveillance activities on Instagram and with the percentage of strangers that are followed.

As mentioned before, age had significant negative correlations with most Instagram use variables such as Non-Interactive Surveillance, with Instagram envy, and with immature defense use and a positive correlation with composite well-being score. Regarding gender, there were significant differences in some aspects of Instagram use such as daily duration, and in Instagram envy. Relationship status also had significant associations with Instagram use variables such as number of posts. Moreover, regarding relationship status, there were significant differences in Instagram

envy, immature defense use, and composite well-being score. Therefore; age, gender, and relationship status were included in the mediation model analysis.

Subsequently, a stepwise regression analysis was carried out. The composite score of psychological well-being was assigned as the dependent variable in order to predict psychological well-being based on the level of non-interactive surveillance activities on Instagram, Instagram envy, immature defense use, gender, age, relationship status, daily duration on Instagram, the percentage of strangers that are followed, and interaction with strangers as independent variables. Interaction terms of Instagram Envy and immature defense mechanism use were also included in the regression equation. A summary of the models obtained from the stepwise regression analysis is presented in Table 3.6.

Table 3.6. *Summary of Stepwise Regression Analysis by Composite Well-Being*

Model	R	R^2	Adjusted R^2	SE of the Estimate	R^2 Change	F Change	df1	df2
1	.570[a]	0.324	0.323	1.43426	0.324	237.630	1	495
2	.589[b]	0.347	0.344	1.41159	0.023	17.027	1	494
3	.601[c]	0.361	0.357	1.39795	0.014	10.684	1	493
4	.608[d]	0.370	0.365	1.38910	0.009	7.301	1	492
5	.613[e]	0.375	0.369	1.38463	0.005	4.185	1	491

a. Predictors: (Constant), Instagram Envy
b. Predictors: (Constant), Instagram Envy, Gender
c. Predictors: (Constant), Instagram Envy, Gender, Non-Interactive Surveillance
d. Predictors: (Constant), Instagram Envy, Gender, Non-Interactive Surveillance, Age
e. Predictors: (Constant), Instagram Envy, Gender, Non-Interactive Surveillance, Age, Percentage of Strangers that are followed
f. Dependent Variable: Composite Well-Being

At Step 1 of the analysis, Instagram envy was entered into the regression equation; indicating that approximately 32.4% of the variance of the composite score

of psychological well-being could be accounted for by Instagram envy, $R^2 = .324$, $F(1, 495) = 237.630$, p < .001.

After gender was included in addition to Instagram envy in the equation at Step 2, the total variance explained by the model as a whole was 34.7%, $F(2, 494) = 131.176$, p < .001. Addition of Gender to the prediction of the composite score of psychological well-being explained an additional unique 2.3% of the variance, after controlling for Instagram envy, $R^2_{change} = .023$, $F_{change}(1, 494) = 17.027$, p < .001.

At step 3, the level of non-interactive surveillance activities on Instagram was entered into the equation; hence, the total variance explained by the model as a whole became 36.1 %, $F(3, 493) = 92.726$, p < .001. The level of non-interactive surveillance activities on Instagram explained an additional 1.4% of the variance in the prediction after controlling for Instagram envy and gender, $F_{change}(1, 493) = 10. 684$, p = .001.

At step 4, age was entered into the equation and the total variance explained by the model as a whole increased to 37%, $F(4, 492) = 72.259$, p < .001. Age explained an additional 0.9% of the variance in the prediction, after controlling for Instagram envy, gender, and the level of non-interactive surveillance activities on Instagram, $R^2_{change} = .009$, $F_{change}(1, 492) = 7.301$, p < .01.

At the final step, percentage of strangers that are followed was entered into the regression equation lastly. Addition of percentage of strangers that are followed to the prediction of the composite score of psychological well-being explained an additional unique 0.5% of the variance, after controlling for Instagram envy, gender, the level of non-interactive surveillance activities on Instagram and age, $R^2_{change} = .005$, $F_{change}(1, 491) = 4.185$, p < .05.

The results of the regression indicated that the final model explained 37.5% of the total variance in the prediction of the composite psychological well-being score and that the final model was a significant predictor of the composite psychological well-being score, $F(5, 491) = 59.018$, p < .001. Neither relationship status, daily duration on Instagram, interaction with strangers nor interaction terms of Instagram Envy and immature defense mechanism use contributed to the multiple regression model.

Table 3.7. *Results of the Stepwise Regression Analysis for Variables Predicting the Composite Well-Being (N=497)*

	Unstandardized Coefficients		Standardized Coefficients		
	B	B SE	Beta	T	Sig.
(Constant)	.032	.064		.492	.623
Instagram Envy	-1.015	.066	-.570	-15.415	.000
Gender	.603	.146	.151	4.126	.000
Non-Interactive Surveillance	.212	.065	.120	3.269	.001
Age	.053	.020	.099	2.702	.007
Percentage of Strangers that are followed	-.131	.064	-.074	-2.046	.041

Further observation of the regression coefficients and standardized beta values which are presented in Table 3.7 indicates Instagram envy to be the strongest predictor of well-being, with a unit of increase in Instagram envy leading to a 1.015 decrease in the composite score of psychological well-being. Being a woman would lead to a .603 increase in the composite score of psychological well-being. Moreover, the composite score of psychological well-being is increased by .212 for each unit of increase in engagement in the non-interactive surveillance activities. Higher percentage of strangers that are followed would lead to a .131 decrease in the composite score of psychological well-being. Lastly, well-Being level is increased by .053 unit for each unit of increase in age.

3.3.6. Further Exploration of Instagram Envy

Although in the regression model with the composite score as the dependent variable an interaction effect was not significant, initial exploration of the correlations of Instagram Envy warranted a further exploration of indirect and direct effects; while accounting for the relative contributions of Life Satisfaction and Well-Being scores to a latent composite score,. This analysis was also regarded to be a more direct test of the mediational models as suggested by Hypotheses 3 and 7. Further analyses regarding mediation model were conducted using AMOS, in order to test path models. Commonly used model fit indices such as CFI and RMSEA were used to evaluate models. The proposed path model is presented in Figure 3.1.

Figure 3.1. *Mediational Model for Instagram Envy as the Mediator*
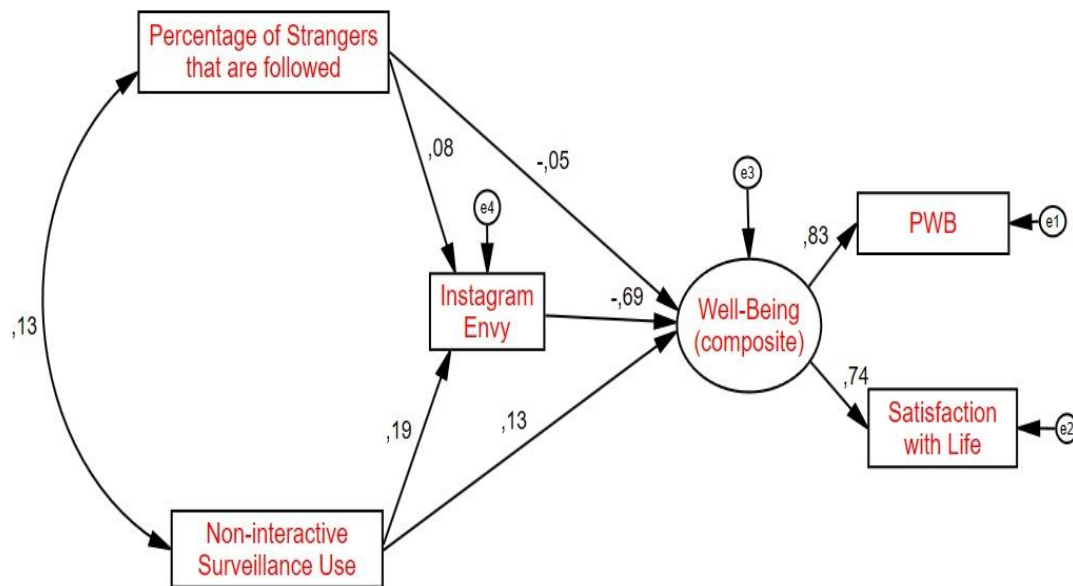
This path model illustrates that there is a strong relationship between Instagram envy and composite score of well-being, as the standardized regression coefficient

between Instagram envy and composite well-being was found to be -.69. Moreover, direct effect of non-interactive surveillance activities on composite well-being is .13. Further, engagement in non-interactive surveillance activities was found to influence Instagram envy, which in turn leads to decreased well-being, as indicated by the standardized indirect effect that was found to be -.14. Due to the indirect effect of non-interactive surveillance on composite well-being, mediated by Instagram envy, when engagement in non-interactive surveillance activities goes up by 1 standard deviation, composite well-being score goes down by .14 standard deviations. On the other hand, the percentage of strangers that are followed was not found to significantly influence Instagram envy or well-being. Fit index values were found as $\chi 2 = 6.869$, NFI = .987, TLI = .951, IFI = .990, CFI = .990, and RMSEA = .069.

However, analysis testing whether immature defense use moderate the relationships was not supported. Yet, for exploratory purposes, another model including immature defense use, relationship status, gender, and age based on the findings of the regression analysis with Instagram envy as the dependent variable was proposed and tested.

3.3.7 Predictors of Instagram Envy

Considering the strong effect of Instagram envy on composite well-being, another stepwise regression analysis was conducted, assigning the Instagram envy level as one dependent variable based on the level of non-interactive surveillance activities on Instagram, the percentage of strangers that are followed, immature defense use, gender, age, relationship status, interaction with strangers, and daily duration on Instagram as independent variables. Interaction terms of immature defense mechanism use, interaction with strangers and the percentage of strangers that are followed were also included in the regression equation. A summary of the models obtained from the stepwise regression analysis is presented in Table 3.8.

Table 3.8. *Summary of Stepwise Regression Analysis by Instagram Envy*

Model	R	R2	Adjusted R2	SE of the Estimate	R2 Change	F Change	df1	df2
1	,342[a]	.117	.115	.920	.117	65.433	1	495
2	,374[b]	.140	.136	.909	.023	13.096	1	494
3	,392[c]	.153	.148	.903	.014	8.061	1	493
4	,407[d]	.165	.159	.897	.012	7.095	1	492

a. Predictors: (Constant), Immature Defense Use
b. Predictors: (Constant), Immature Defense Use, Non-Interactive Surveillance
c. Predictors: (Constant), Immature Defense Use, Non-Interactive Surveillance, Relationship Status
d. Predictors: (Constant), Immature Defense Use, Non-Interactive Surveillance, Relationship Status, Gender,
f. Dependent Variable: Instagram Envy

At Step 1 of the analysis, immature defense use was entered into the regression equation; indicating that approximately 11.7% of the variance of the composite score of Instagram envy could be accounted for by immature defense use, $R^2 = .117$, $F(1, 495) = 65.433$, $p < .001$.

After non-interactive surveillance was included in addition to immature defense use in the equation at Step 2, the total variance explained by the model as a whole was 14%, $F(2, 494) = 40.064$, $p < .001$. Addition of non-interactive surveillance to the prediction of the composite score of Instagram envy explained an additional unique 2.3% of the variance, after controlling for immature defense use, $R^2_{change} = .023$, $F_{change}(1, 494) = 13.096$, $p < .001$.

At step 3, relationship status was entered into the equation; hence, the total variance explained by the model as a whole became 15.3%, $F(3, 493) = 29.778$, $p < .01$. Relationship status explained an additional unique 1.4% of the variance, after controlling for immature defense use and non-interactive surveillance, $R^2_{change} = .014$, $F_{change}(1, 493) = 8.061$, $p < .01$.

At the final step, gender was entered into the regression equation lastly and increased the total variance explained by the model to 16.5%, $F(4, 492) = 24.383$, p < .01. Addition of gender to the prediction of Instagram envy explained an additional unique 1.2% of the variance, after controlling for immature defense use, non-interactive surveillance, and relationship status, $R^2_{change} = .012$, $F_{change}(1, 492) = 7.095$, p < .01

The regression coefficients and standardized beta values which are presented in Table 3.9 reveals that more immature defense use would lead to a .344 increase in Instagram envy. More engagement in the non-interactive surveillance activities would lead to a .150 increase in Instagram envy. Being in a relationship would lead to a .233 decrease in Instagram envy. Moreover, being a woman would lead to .247 increase in Instagram envy.

Table 3.9. *Results of the Stepwise Regression Analysis for Variables Predicting the Instagram Envy (N=497)*

	Unstandardized Coefficients		Standardized Coefficients		
	B	B SE	Beta	t	Sig.
(Constant)	-.018	.041		-.424	.672
Immature Defense Use	.344	.043	.342	8.089	.000
Non-Interactive Surveillance	.150	.041	.152	3.619	.000
Relationship Status	-.233	.082	-.119	-2.839	.005
Gender	.247	.093	.110	2.664	.008

3.3.8. Alternative Model for Instagram Envy as the Mediator

Based on the findings of the regression analyses reported above, in order to account for a greater level of variance and allow for a comparison of indirect and direct effects, while accounting for the relative contributions of Life Satisfaction and Well-Being scores to a latent composite score, an alternative model was proposed and tested. Further analyses regarding mediation model were conducted using AMOS, in order to test path models. Alternative path model with Instagram envy as the mediator is presented in Figure 3.2.

Figure 3.2. *Alternative Model for Envy as the Mediator*
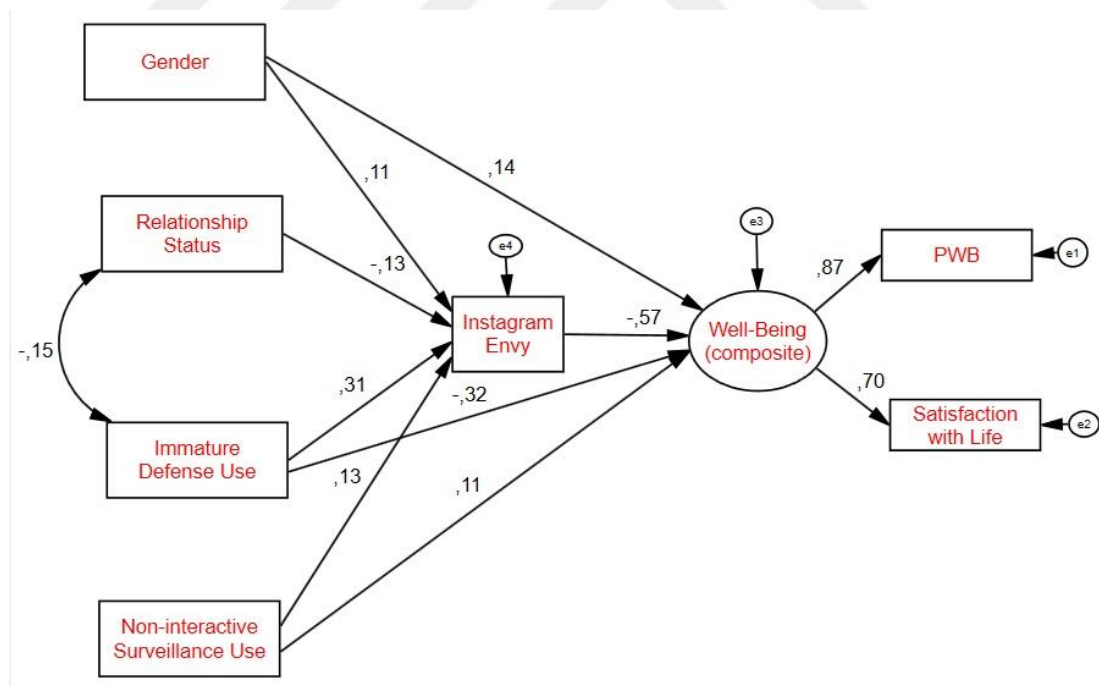
The standardized indirect effect of immature defense use on composite well-being score was found to be -.18. Due to the indirect effect of immature defense use on composite well-being, mediated by Instagram envy, when the level of immature

defense use goes up by 1 standard deviation, composite well-being score goes down by.18 standard deviations. The standardized indirect effect on composite well-being was found to be .072 for relationship status, -.,063 for gender, .030 for non-interactive surveillance activities. This alternative model also indicates a mediational role for Instagram Envy for the relationship between Immature Defense and Well-Being. Fit index values were found as $\chi 2 = 6.869$, NFI = .951, TLI = .927, IFI = .966, CFI = .965, and RMSEA = .067, indicating a good model fit.

3.4. SUMMARY OF THE FINDINGS

In general, findings of Pearson correlation analyses indicated significant correlations between non-interactive surveillance and Instagram envy, and between non-interactive surveillance and immature defense use. Yet, the significant correlation between non-interactive surveillance on Instagram and well-being was not observed contrary to what was expected in the first hypothesis. Findings also indicated significant correlations between the percentage of strangers that are followed and well-being, between the percentage of strangers that are followed and Instagram envy. However, contrary to the sixth hypothesis, a significant correlation was not found between the percentage of strangers that are followed and immature defense use. In order to control for demographic variables and compare their relative impacts, regression analyses with composite well-being as the dependent variable were conducted. For initial examinations of mediation – moderation model, interaction terms of Instagram Envy and immature defense mechanism use were also included in the regression equation. Findings indicated that envy appeared to have a meaningful mediator role between established relationships; subsequently, mediation model was tested via Structural Equation Modeling.

CHAPTER 4
DISCUSSION

The current study aimed to offer an affect – defense perspective to examine the relationship between different aspects of Instagram use and psychological well-being among young adults, with focusing on the time spent passive browsing on Instagram and the percentage of strangers that are followed as aspects of Instagram use. As the relationship between Instagram use and psychological well-being remains unclear in the literature and the studies on psychological correlates of Instagram use are relatively scarce, this study intended to understand how different aspects of Instagram use are associated with psychological well-being, with a consideration of interpersonal and intrapsychic dynamics. More precisely, Instagram envy and defense mechanisms were within the scope of this study. In the following section, the results of the study with reference to the literature, clinical implications, limitations, and recommendations for further research will be discussed.

4.1. DISCUSSION OF DESCRIPTIVE FINDINGS

Almost all participants (96%) were highly educated, more than half of the participants (54.7%) had no job, more than three quarters of participants (77.8%) had middle to high socioeconomic status, majority of participants (87.8%) were single, almost half of the participants (49.4%) were in a relationship and most participants (60%) were living either with their families, siblings, spouses or children. These descriptive findings suggest that the sample of the current study was a relatively homogenous group.

Nearly half of the participants (48.6%) were satisfied with using Instagram and average time spent on Instagram was reported in this study as approximately 62 minutes per day, which constitutes 37.4% of the average time spent on social media which was revealed in "Digital in 2019" report (*Global Digital Report 2019*, n.d).

Majority of the sample (73.1%) reported having only one Instagram account, whereas 137 (26.9%) participants reported using multiple Instagram accounts up to 4 accounts. Although weakly, the number of Instagram accounts was found to be negatively correlated with age. This finding, indicating that younger participants were using more accounts, is in line with what Safronova (2015) described; however, it is not possible to make a clear inference about whether younger participants in the current study were using their spare accounts as "f(ake)insta(gram)" as the current study did not investigate whether the audience was limited to closest friends or the content was unattractive. Yet, the findings of the current study revealed that 64 participants reported having Instagram accounts with a nickname.

Most of the participants (82.7%) reported their privacy setting to be private, suggesting that privacy might be a main concern while using Instagram. Average number of people participants follow was higher than average number of their followers, with strangers constituting the minorities among them (%28 and %19, respectively). This may be due to the privacy concern mentioned before. Concordantly, participants reported they rarely engage in interaction with strangers on Instagram.

In general, participants reported moderate levels of psychological well-being, with no significant difference between women and men. However, there were significant differences between participants in a relationship and those in no relationship with regard to composite psychological well-being, with participants being in a relationship showing higher levels of composite psychological well-being. In line with these findings, it was also reported in the literature that involving in intimate relationships plays a significant role in both eudaimonic well-being and hedonic well-being (Sirgy, 2012, p.53).

Participants reported moderate levels of Instagram envy; though, women reported significantly higher levels of Instagram envy than men. This finding is also in line with the literature that suggest women are more likely to experience envy feelings while using social media (Krasnova et al., 2013). Moreover, Instagram envy levels of participants in a relationship and those in no relationship differed significantly from

each other; with participants being in a relationship showing lower levels of Instagram envy. It is interpreted that this difference might be due to the relative deprivation felt in the face of idealized romantic images often seen on Instagram.

4.2. DISCUSSION OF ANALYSES RELEVANT TO THE HYPOTHESES

This study expected the time spent by passive browsing using Instagram to be negatively correlated with psychological well-being, positively correlated with Instagram envy which is elicited while using Instagram and with immature defense mechanism use. Further, in the light of the literature, Instagram envy was hypothesized to have a mediating effect on the relationship between the time spent by passive browsing using Instagram and psychological well-being, whereas immature defense mechanism use was hypothesized to be a moderator. Moreover, this study also expected the percentage of strangers that are followed on Instagram to be negatively correlated with psychological well-being, positively correlated with Instagram envy and with immature defense mechanism use. Envy was hypothesized again as a mediator and immature defense mechanism use as a moderator. In order to test these hypotheses, the correlations among variables were checked and then further analyses were conducted.

4.2.1. Associations between the Time Spent by Passive Browsing Using Instagram, Psychological Well-Being, Instagram Envy

Some studies on social media propose two different types of use on social media platforms: active versus passive (Burke et al, 2010; Deters & Mehl, 2013; Krasnova et al., 2013; Lup, Trub, & Rosenthal, 2015; Verduyn et al, 2015). Whereas active use refers to engaging in direct interaction with others via liking, commenting, messaging, and sharing content; passive use refers to engaging in activities which lack direct communication, such as scrolling through the platform feed and exploring the content others shared on their profiles. Based on this differentiation in the existing literature, a

scale was developed for the current study in order to investigate specific uses of Instagram features. Principal Components Analysis did not yield a separate factor bringing "scrolling through the platform feed" and "exploring the content others shared on their profiles" characteristics together; yet, a similar separate factor emerged regarding browsing others' profiles, which is called "non-interactive surveillance". Thus, first 4 hypotheses of this study were modified to expect associations between the level of non-interactive surveillance use on Instagram and psychological well-being, Instagram envy, and immature defense use.

Contrary to the first hypothesis, findings of the current study revealed that non-interactive surveillance use, the specific passive use regarding browsing the content shared by others, was not correlated with psychological well-being. Yet, this finding cannot be supported in the light of existing literature regarding passive use of social media platforms.

Various studies in the literature reported that monitoring the accounts of others and following their activities on social media without direct engagement is associated with decreased levels of psychological well-being (Krasnova et al., 2013; Shaw, Timpano, Tran, & Joormann, 2015; Verduyn et al., 2015; Verduyn, Ybarra, Resibois, Jonides, & Kross, 2017). For instance, in the first part of their experimental study, Verduyn et al. (2015) found a significant decline in affective well-being of participants who were randomly assigned to passive Facebook use in comparison to their baseline levels, whereas no significant decline in affective well-being was found for those who were assigned to active Facebook use condition. In the second part of their study, Verduyn et al. (2015) further found that whereas passive Facebook use predicted decline in affective well-being, the reverse pathway was not significant, indicating that people felt worse depending on their passive Facebook use but they did not tend to use Facebook passively depending on their affective state. As this finding of the current study is not consistent with existing literature, it is interpreted that this conflicting finding of the current study may be due to the recent safety measures that are taken by

co-founders of Instagram to protect its community based on the collaborations with researchers and recommendations of clinicians.

However, the unexpected positive direct effect of non-interactive surveillance on well-being was overshadowed by the findings supporting the mediation model with Instagram envy as the mediator. Experience of envy feelings that are elicited from Instagram use plays a significant role in the relationship between non-interactive surveillance use and psychological well-being of participants. In sum, engagement in non-interactive surveillance activities was found to influence Instagram envy, which in turn leads to decreased well-being.

The significant positive relationship between non-interactive surveillance use and Instagram envy is consistent with the findings of the previous studies on the relationship between Facebook and envy (Burke, Marlow, & Lento, 2010). This may be due to the fact that by browsing others' profiles passively, people become more prone to being exposed to highlight reel of others, as idealized selves are often being displayed on social media (Zhao, Grasmuck, & Martin, 2008). As people tend to perceive that others on social media are happier and living a better life (Chou & Edge, 2012), seeing others' "filtered" reel on Instagram may lead to exacerbated envy feelings related to Instagram use, which subsequently brings negative emotions such as dislike with one's own life into the scene and thus contributes to a decreased well-being. Indeed, literature provides extent evidence for passive use of social media platforms leading to higher levels of envy which in turn leads to decreased well-being (Appel, Crusius, & Gerlach, 2015; Krasnova et al., 2015; Steers, Wickham, & Acitelli, 2014; Tandoc, Ferrucci, & Duffy, 2015).

These results offer a rationale for negative associations identified between Instagram use and psychological well-being and support the current view on Instagram research to investigate different aspects of Instagram use instead of a single comprehensive aspect. Besides, considering the findings of the study conducted by Sheldon and Bryant (2016), which revealed that surveillance was the first among the

four motivations to use Instagram, this finding should be alarming for Instagram community.

4.2.2. Associations between the Percentage of Strangers That are Followed Instagram, Psychological Well-Being, Instagram Envy

Although there was significant but quite weak correlations between the percentage of strangers that are followed and psychological well-being, and between the percentage of strangers that are followed and Instagram envy; findings did not support the mediation model with Instagram envy as the mediator between the percentage of strangers that are followed and psychological well-being. Considering that envy usually occurs as a result of contrasting oneself with others, findings of the current study suggest that whether "others" are strangers or acquaintances do not have a strong difference regarding their impact for triggering envy feelings elucidated while Instagram use. In fact, the important point seems to be whether there is something for envying someone, not who this someone is. The grass may be always greener in someone else's garden, regardless of the owner of the garden.

Moreover, this unexpected indifference between followees that are strangers or acquaintances may be due to comparing oneself with others based on perceived similarity (Festinger, 1954). Rather than comparing themselves specifically with strangers, due to the perceived similarity Instagram users may be comparing themselves with "others" who have similar background characteristics or current life standards. For instance, women may be comparing themselves with other women rather than with men regardless of the fact that other one is stranger or acquaintance, as individuals prefer same-sex social comparisons (Suls, Gaes, & Gastorf, 1979). Moreover, Instagram users may be comparing themselves with others based on the likes or comments their contents receive as suggested by Steers, Wickham and Acitelli (2014) for the case of Facebook.

Considering the numerous functions provided by Instagram such as liking, commenting, broadcasting with instant reactions being abled, and sharing others' stories as well, future studies may extend their scopes to studying other aspects of Instagram use which may trigger envy feelings.

4.2.3. Associations between the Time Spent by Passive Browsing Using Instagram and Immature Defense Use, and between the Percentage of Strangers That are Followed and Immature Defense Use

To the best of author's knowledge, the relationship between Instagram use and immature defense mechanism use was not investigated in any previous study. Hence, this was the first study to explore this relationship. Initial findings of the current study revealed a significant but quite weak association between non-interactive surveillance use on Instagram and immature defense use but no significant association with the percentage of strangers that are followed; however, further analyses indicated that immature defense use was not found to moderate the relationship between non-interactive surveillance and composite well-being or between the percentage of strangers and composite well-being. This may be due to the small variance observed in the immature defense use levels of participants in the current study. Moreover, in the current study, data was collected from volunteer participants in non-clinical population. As the sample of the current study was not clinical, extreme scores indicating a strong distortion of reality were not observed in the study data. Moreover, this may also be due to the fact that the current study did not focus on one specific defense mechanism but rather chose a global score of immature defense mechanisms to investigate. Further research may be conducted with splitting the levels of immature defense use in order to detect any noteworthy relationship or focus on a specific defense mechanism. Precisely, splitting which is defined as evaluating the self and others either all-good or all-bad (Freud, 1938/1941) might be related to explore how people react to highlight reel of others on social media.

4.2.4. Associations between the Predictors of Instagram Envy, Instagram Envy, and Psychological Well-Being

Although we initially did not hypothesize mediation models for Instagram envy with background characteristics, analyses in the current study implied an alternative mediation model including these variables. In addition to the non-interactive surveillance activities on Instagram in the initially proposed mediation model, immature defense use, relationship status, and gender were found to be significantly related to psychological well-being through Instagram envy. More immature defense use was found to predict more Instagram envy which in turn leads to decreased levels of well-being. Being a female was found to be associated with decreased well-being through experiencing higher levels of Instagram envy; this is interpreted to be consistent with the literature illustrating the dark side of the social media use for women. As Richins (1995) suggested for traditional media and Perloff (2014) maintained for the social media, people may be feeling less satisfied with themselves and inferior to others via the comparisons based on the images seen in these mediums. Taking thinspiration and fitspiration movements mostly targeting women, and proliferation of beauty-, cosmetics-, and fashion-focused accounts into consideration, women may be especially prone to experience envy feelings due to Instagram use, which in turn leads to decreased well-being levels. Indeed, appearance-based social comparison, which might have triggered envy feelings, was found to mediate the relationship between being exposed to Instagram fitspiration images and decreased mood and body dissatisfaction (Tiggemann & Zaccardo, 2015). Moreover, Sherlock and Wagstaff (2018) indicated that people evaluate themselves less attractive after being exposed to beauty and fitness images on Instagram; suggesting that they feel inferior after comparing themselves with others they see.

4.3. CLINICAL IMPLICATIONS

The findings of the present study have some clinical implications. First, these findings offer another snapshot for emotional life in the context of Instagram. It is important for clinicians to be aware of the possibility for Instagram use to elicit strong feelings such as envy which in turn leads to lower levels of well-being, in terms of both hedonic and eudamonic. Yet, it should be noted that not just the mere use of Instagram, but rather use of specific aspects of it, seems to contribute envy experienced in this context. Therefore, it is important to try to understand for what purpose people use it and how they use it, as well as how much they experience their use of Instagram. Spreading awareness about the potential hazards related Instagram use may help people identify their feelings related to their use of this platform and take action accordingly.

4.4. LIMITATIONS AND FUTURE DIRECTIONS

Several caveats of the current study should be mentioned. Relying on self-report measures were one of the limitations. Although the reliabilities of the scales were high, participants may have given socially desirable answers or they may have given incorrect estimates for numbers related to different aspects of Instagram use such as amount of time, the number of followers and followees, and the number of posts. They could have maximized the numbers which were thought to be related to popularity and increased well-being, whereas they could have minimized the numbers which were thought to be related to decreased well-being. Moreover, the sample might not be representative of larger young adult population. Majority of the participants were women and this is not in line with the previously reported statistics of Instagram use. Strikingly, the study sample was highly educated, whose responses might differ from the general young adult population. Further studies can pay attention to relatively equal distribution of groups with regard to their background characteristics.

The findings of this study shed light on the need for investigating the different aspects of Instagram use instead of focusing only on the amount of daily duration or the frequency of visits. Instagram provides its users numerous functions whose relationship with psychological well-being remain still unclear. Further studies may focus on liking behavior which was found in the current study to be associated with Instagram envy, immature defense use and composite well-being. Moreover, focusing on a specific defense mechanism such as splitting mentioned above may contribute to gain a more in-depth understanding of how intrapsychic dynamics are related to Instagram use experience.

CONCLUSION

This study offered a comprehensive view on the relationship between different aspects of Instagram use and psychological well-being. The results are parallel with the literature in terms of envy, which was defined and operationalized as "Instagram envy" for the purpose of the current study, to mediate this aforementioned relationship. Yet, Instagram envy was found to be more related with background characteristics rather than specific Instagram behaviors.

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APPENDICES

Appendix A: Informed Consent Form

Sayın Katılımcı,

Bu araştırma İstanbul Bilgi Üniversitesi Klinik Psikoloji Yüksek Lisans Programı öğrencisi Büşra Beşli tarafından Dr. Öğr. Üyesi Alev Çavdar Sideris danışmanlığında, Instagram kullanımı ile psikolojik iyi olma hali arasındaki ilişkinin incelenmesi amacıyla, yüksek lisans tez çalışması kapsamında yürütülmektedir.

Araştırmaya Instagram kullanıcısı olan 18-30 yaş arası bireyler katılabilmektedir ve araştırmaya katılım tamamen gönüllülük esasına dayanmaktadır. Araştırmanın herhangi bir noktasında hiçbir gerekçe belirtmeden anketi doldurmayı bırakabilirsiniz.

Araştırmanın hiçbir bölümünde sizden kimlik belirleyici hiçbir bilgi istenmemektedir. Sorulara vereceğiniz yanıtlar araştırmacılar dışında kimseyle paylaşılmayacaktır. Veriler toplu halde değerlendirilerek yalnızca bilimsel yayın amacıyla kullanılacaktır.

Çalışmanın amacına ulaşması için sizden beklenen, tüm soruları eksiksiz ve içtenlikle cevaplamanızdır. Soruları tamamlamanız yaklaşık 20-25 dakika sürmektedir.

Araştırmaya yönelik herhangi bir sorunuz olması halinde Büşra Beşli (e-posta: …) ile iletişime geçebilirsiniz.

☐ Yukarıda verilen bilgiler doğrultusunda, bu çalışmaya katılmayı kabul ediyorum.

Appendix B: Demographic Information Form

1. Yaşınız: *(18 – 30 yaş aralığında değilseniz lütfen anketi burada sonlandırın.)*

2. Instagram kullanıyor musunuz?

    Evet

    Hayır   *(Instagram kullanmıyorsanız lütfen anketi burada sonlandırın.)*

3. Cinsiyetiniz:

    Kadın   Erkek   Diğer

4. Lütfen eğitim durumunuzu en iyi tanımlayan seçeneği işaretleyiniz.

    İlköğretim terk   İlköğretim mezunu

    Lise terk   Lise mezunu

    Üniversite öğrencisi   Üniversite terk   Üniversite mezunu

    YL/Doktora öğrencisi   YL/Doktora terk   YL/Doktora mezunu

5. Öğrenci iseniz okuduğunuz okul ve bölüm:

  Öğrenci değilseniz mesleğiniz:

6. Şu anda çalışıyor musunuz?

    Evet   Hayır   Diğer

7. Lütfen gelir seviyenizi en iyi tanımlayan seçeneği işaretleyiniz.

    Alt

    Alt-Orta

    Orta

    Orta-Üst

    Üst

8. Medeni durumunuz:

     Bekar

     Evli

     Dul

     Boşanmış

9. İlişki durumunuz:

     Var   Yok   Diğer

10. Kiminle yaşıyorsunuz?

Yalnız	Arkadaş	Partner/Sevgili
Ebeveyn ve/ya kardeş	Akraba	Eş
Diğer		

Appendix C: Instagram Use Form

1. Lütfen kaç sayıda Instagram hesabınızın olduğunu belirtiniz.

…

2. Aşağıdaki hesap türlerinden hangilerini kullanmaktasınız?

Kişisel hesap – kendi adımla

Kişisel hesap – takma isimle

İş / Tanıtım hesabı

Stalk hesabı

* Lütfen aşağıdaki soruları yanıtlarken Instagram kullanımınıza dair güncel bilgilerinizi paylaşabilmeniz için kişisel Instagram hesabınızı kontrol ediniz.

1. Lütfen Instagram hesabınızın gizlilik durumunu belirtin.

Herkese açık   Gizli hesap

2. Ne kadar zamandır Instagram kullanıyorsunuz? Lütfen ay olarak belirtin.

… ay

3. Instagram'ı bir gün içinde ortalama ne sıklıkla ziyaret ediyorsunuz?

… kez

4. Instagram'da günde ortalama ne kadar zaman geçiriyorsunuz?

… dakika

5. Instagram hesabınızda kaç gönderi paylaşımınız var?

…

6. Instagram'da paylaştığınız bir gönderi ortalama kaç beğeni almaktadır?

…

7. Instagram'da paylaştığınız bir gönderi ortalama kaç yorum almaktadır?

…

8. Instagram'da toplam kaç takipçiniz var?

…

9. Instagram takipçilerinizden kaçını tanıyorsunuz?

…

10. Instagram'da toplam kaç kişiyi takip ediyorsunuz?

…

11. Instagram'da takip ettiğiniz kişilerin kaçını tanıyorsunuz?

…

12. Instagram'da takip ettiğiniz ancak tanımadığınız kişilerden kaçını tek taraflı takip ediyorsunuz? (Sizin takip ettiğiniz fakat onların sizi takip etmediği kişiler)

…

Aşağıda çeşitli Instagram aktiviteleri verilmiştir. Lütfen Instagram kullanırken bu aktiviteleri (ya da aktiviteyi) ne sıklıkta yaptığınızı belirtiniz.	Hiçbir zaman	Nadiren	Bazen	Sıklıkla	Oldukça sık
1 Herhangi bir şekilde beğeni butonuna tıklamadan ve yorum yapmadan, Instagram ana sayfasında gezinmek	1	2	3	4	5
2 Paylaşılan hikayeleri izlemek	1	2	3	4	5
3 Canlı yayın izlemek	1	2	3	4	5
4 Takip ettiğiniz ve tanıdığınız birinin paylaşımını beğenmek	1	2	3	4	5
5 Takip ettiğiniz ama tanımadığınız birinin paylaşımını beğenmek	1	2	3	4	5
6 Takip etmediğiniz ve tanımadığınız herhangi birinin paylaşımını beğenmek	1	2	3	4	5
7 Takip ettiğiniz ve tanıdığınız birinin paylaşımına yorum yapmak	1	2	3	4	5
8 Takip ettiğiniz ama tanımadığınız birinin paylaşımına yorum yapmak	1	2	3	4	5
9 Takip etmediğiniz ve tanımadığınız herhangi birinin paylaşımına yorum yapmak	1	2	3	4	5
10 Kendi profilinizde paylaşım yapmak	1	2	3	4	5
11 Hikaye paylaşımı yapmak	1	2	3	4	5
12 Canlı yayın yapmak	1	2	3	4	5
13 Takip ettiğiniz ve tanıdığınız birinin profil sayfasında gezinmek	1	2	3	4	5
14 Takip ettiğiniz ama tanımadığınız birinin profil sayfasında gezinmek	1	2	3	4	5
15 Takip etmediğiniz ve tanımadığınız herhangi birinin profil sayfasında gezinmek	1	2	3	4	5
16 Takip ettiğiniz ve tanıdığınız birine mesaj göndermek	1	2	3	4	5
17 Takip ettiğiniz ama tanımadığınız birine mesaj göndermek	1	2	3	4	5
18 Takip etmediğiniz ve tanımadığınız herhangi birine mesaj göndermek	1	2	3	4	5
19 Birini takip etmeye başlamak ya da takip etmekte olduğunuz birini takip etmeyi bırakmak	1	2	3	4	5
20 Gelen takip isteğini onaylamak ya da reddetmek	1	2	3	4	5

14. Genel olarak Instagram kullanmaktan ne kadar memnunsunuz?

Hiç memnun değilim (1)	Memnun değilim (2)	Kararsızım (3)	Memnunum (4)	Çok memnunum (5)

15. Aşağıda verilen Instagram kullanım özelliklerinin sizin için ne derece önemli olduğunu ölçek üzerinde belirtiniz.

		Hiç önemli değil	Önemsiz	Ne önemli ne önemsiz	Önemli	Çok önemli
1	Fotoğraf ve videoları paylaşma özelliği	1	2	3	4	5
2	Fotoğraf ve videoları çeşitli filtre ve efektleri uygulayıp paylaşma özelliği	1	2	3	4	5
3	Paylaşılan fotoğraf ve videolara açıklama yazma özelliği	1	2	3	4	5
4	Yapılan paylaşımlarda Hashtag (#) kullanarak çok sayıda kullanıcıya ulaşabilmeyi sağlama özelliği	1	2	3	4	5
5	Paylaşılan fotoğraf ve videoları beğenme özelliği	1	2	3	4	5
6	Paylaşılan fotoğraf ve videolara yorum yazma özelliği	1	2	3	4	5
7	Hikaye paylaşma özelliği	1	2	3	4	5
8	Canlı yayın yapma ve canlı yayın izleme özelliği	1	2	3	4	5

Appendix D: Instagram Envy Scale

Lütfen Instagram kullanımı deneyiminizi göz önünde bulundurarak aşağıdaki ifadelerin size ne kadar uygun olduğunu aşağıdaki ölçek üzerinde işaretleyiniz.

		Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
1	Genellikle başkalarından daha aşağıda olduğumu hissederim.	1	2	3	4	5
2	Bazı insanların her zaman iyi vakit geçirdiğini görmek çok sinir bozucu.	1	2	3	4	5
3	Hayatın hep başkalarına güzel/eğlenceli olması bir şekilde adil gelmiyor.	1	2	3	4	5
4	Keşke arkadaşlarımın bazıları kadar seyahat edebilsem.	1	2	3	4	5
5	Arkadaşlarımın birçoğunun benden daha iyi bir hayatı var.	1	2	3	4	5
6	Arkadaşlarımın birçoğu benden daha mutlu.	1	2	3	4	5
7	Hayatım arkadaşlarımın hayatlarından daha eğlenceli.	1	2	3	4	5

Appendix E: Defense Style Questionnaire

Lütfen her ifadeyi dikkatle okuyup, bunların size uygunluğunu 1'den 9'a kadar derecelendirilmiş ölçek üzerinde belirtin.

Bana hiç uygun değil   1   2   3   4   5   6   7   8   9   Bana çok uygun

	1	2	3	4	5	6	7	8	9
1. Başkalarına yardım etmek hoşuma gider, yardım etmem engellenirse üzülürüm.									
2. Bir sorunum olduğunda, onunla uğraşacak vaktim olana kadar o sorunu düşünmemeyi becerebilirim.									
3. Endişemin üstesinden gelmek için yapıcı ve yaratıcı şeylerle uğraşırım (resim, el işi, ağaç oyma).									
4. Arada bir bugün yapmam gereken işleri yarına bırakırım.									
5. Kendime çok kolay gülerim.									
6. İnsanlar bana kötü davranmaya eğilimliler.									
7. Birisi beni soyup paramı çalsa, onun cezalandırılmasını değil ona yardım edilmesini isterim.									
8. Hoş olmayan gerçekleri, hiç yokmuşlar gibi görmezlikten gelirim.									
9. Superman'mişim gibi tehlikelere aldırmam.									
10. İnsanlara, sandıkları kadar önemli olmadıklarını gösterebilme yeteneğimle gurur duyarım.									

11. Bir şey canımı sıktığında, çoğu kez düşüncesizce ve tepkisel davranırım.								
12. Hayatım yolunda gitmediğinde bedensel rahatsızlıklara yakalanırım.								
13. Çok tutuk bir insanım.								
14. Her zaman doğruyu söylemem.								
15. Sorunsuz bir yaşam sürdürmemi sağlayacak özel yeteneklerim var.								
16. Seçimlerde bazen haklarında çok az şey bildiğim kişilere oy veririm.								
17. Bir çok şeyi gerçek yaşamımdan çok hayalimde çözerim.								
18. Hiçbir şeyden korkmam.								
19. Bazen bir melek olduğumu, bazen de bir şeytan olduğumu düşünürüm.								
20. Kırıldığımda açıkça saldırgan olurum.								
21. Her zaman, tanıdığım birinin koruyucu melek gibi olduğunu hissederim.								
22. Bana göre, insanlar ya iyi ya da kötüdürler.								
23. Patronum beni kızdırırsa, ondan hıncımı çıkarmak için ya işimde hata yaparım ya da işi yavaşlatırım.								
24. Her şeyi yapabilecek güçte, aynı zamanda son derece adil ve dürüst olan bir tanıdığım var.								
25. Serbest bıraktığımda, yaptığım işi etkileyebilecek olan duygularımı kontrol edebilirim.								

26. Genellikle, aslında acı verici olan bir durumun gülünç yanını görebilirim.								
27. Hoşlanmadığım bir işi yaptığımda başım ağrır.								
28. Sık sık kendimi kesinlikle kızmam gereken insanlara iyi davranırken bulurum.								
29. Hayatta, haksızlığa uğruyor olduğuma eminim.								
30. Sınav veya iş görüşmesi gibi zor bir durumla karşılaşacağımı bildiğimde, bunun nasıl olabileceğini hayal eder ve başa çıkmak için planlar yaparım.								
31. Doktorlar benim derdimin ne olduğunu hiçbir zaman gerçekten anlamıyorlar.								
32. Haklarım için mücadele ettikten sonra, girişken davrandığımdan dolayı özür dilemeye eğilimliyimdir.								
33. Üzüntülü veya endişeli olduğumda yemek yemek beni rahatlatır.								
34. Sık sık duygularımı göstermediğim söylenir.								
35. Eğer üzüleceğimi önceden tahmin edebilirsem, onunla daha iyi baş edebilirim.								
36. Ne kadar yakınırsam yakınayım, hiçbir zaman tatmin edici bir yanıt alamıyorum.								
37. Yoğun duyguların yaşanması gereken durumlarda, genellikle hiçbir şey hissetmediğimi fark ediyorum.								
38. Kendimi elimdeki işe vermek, beni üzüntülü veya endişeli olmaktan korur.								
39. Bir bunalım içinde olsaydım, aynı türden sorunu olan birini arardım.								
40. Eğer saldırganca bir düşüncem olursa, bunu telafi etmek için bir şey yapma ihtiyacı duyarım.								

Appendix F: Satisfaction with Life Scale

Aşağıda 5 ifade vardır. Bu ifadelerin size uygunluk derecesini belirlemek amacı ile 1'den 7'ye kadar seçenekler sunulmuştur. Bu derecelendirilmiş seçeneklerden sizin için uygun olan derecelendirme numarasını ifadelerin karşısında yer alan tabloda işaretleyiniz. Cevaplandırmalarda lütfen açık ve dürüst olunuz.

		Hiç uygun değil	Uygun değil	Biraz uygun değil	Ne uygun ne uygun değil	Biraz uygun	Uygun	Çok uygun
1	Yaşamım birçok yönüyle ideallerime yakın.	1	2	3	4	5	6	7
2	Yaşam koşullarım çok iyi.	1	2	3	4	5	6	7
3	Yaşamımdan hoşnutum.	1	2	3	4	5	6	7
4	Şu ana kadar istediğim şeyleri elde edebildim.	1	2	3	4	5	6	7
5	Yeniden dünyaya gelseydim yaşamımda hemen hemen hiçbir şeyi değiştirmezdim.	1	2	3	4	5	6	7

Appendix G: The Scales of Psychological Well-Being

Aşağıda kendiniz ve yaşamınız hakkında hissettiklerinizle ilgili bir dizi ifade yer almaktadır. Lütfen doğru veya yanlış cevap olmadığını unutmayınız. Her bir cümleye katılma ya da katılmama durumunuzu en iyi şekilde gösteren numarayı işaretleyiniz.	Hiç katılmıyorum	Çoğunlukla katılmıyorum	Kısmen katılmıyorum	Kısmen katılıyorum	Çoğunlukla katılıyorum	Tamamen katılıyorum
1 Çoğu insanın görüşlerine ters düşse bile düşüncelerimi dile getirmekten korkmam.	1	2	3	4	5	6
3 Ufkumu genişletecek aktivitelerle ilgilenmem.	1	2	3	4	5	6
9 Kendime ve dünyaya yönelik bakış açımı değiştirecek yeni deneyimleri önemserim.	1	2	3	4	5	6
12 Genellikle kendimi güvenli ve iyi hissederim.	1	2	3	4	5	6
16 Problemlerimi paylaşabileceğim yakın arkadaşım az olduğu için kendimi çoğunlukla yalnız hissederim.	1	2	3	4	5	6
21 Bir birey olarak zamanla kendimi çok geliştirdiğimi düşünüyorum.	1	2	3	4	5	6
25 Genel kanıya ters düşse bile görüşlerime güvenirim.	1	2	3	4	5	6
26 Çoğunlukla sorumluluklarımın altında ezildiğimi hissediyorum.	1	2	3	4	5	6
30 Birçok yönden yaşamdan elde ettiklerime ilişkin hayal kırıklığı yaşadığımı hissediyorum.	1	2	3	4	5	6
34 Diğer insanlarla çok sayıda samimi ve güvenilir ilişkiler yaşamadım.	1	2	3	4	5	6

37	Kendimi değerlendirirken başkalarının önemsediği değerleri değil kendi düşüncelerimi dikkate alırım.	1	2	3	4	5	6
41	Bazen kendimi yapılması gereken her şeyi yapmış gibi hissederim.	1	2	3	4	5	6

ETİK KURUL DEĞERLENDİRME SONUCU/RESULT OF EVALUATION BY THE ETHICS COMMITTEE

(Bu bölüm İstanbul Bilgi Üniversitesi İnsan Araştırmaları Etik Kurul tarafından doldurulacaktır /This section to be completed by the Committee on Ethics in research on Humans)
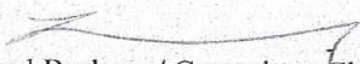
Başvuru Sahibi / Applicant: Büşra Beşli

Proje Başlığı / Project Title: Understanding the Association between Instagram Use and Psychological Well-Being Among Young Adults in Turkey

Proje No. / Project Number: 2019-20024-52

1.	Herhangi bir değişikliğe gerek yoktur / There is no need for revision	XX
2.	Ret/ Application Rejected	
	Reddin gerekçesi / Reason for Rejection	

Değerlendirme Tarihi / Date of Evaluation: 9 Nisan 2019
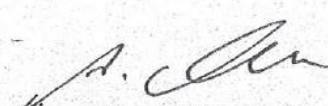
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