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# The Relationship Between Social Problem Solving, Cognitive Factors and Social Media Addiction in Young Adults: A Pilot Study

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## Abstract

The aim of this study is to examine the analysis of automatic thinking, intermediate beliefs and fundamental beliefs of individuals using social media within the framework of cognitive theories and comparison of cognitive structures according to their addiction levels. In addition, it was aimed to determine the addiction levels and behaviors of individuals using social media in terms of their social problem solving skills. The study included a total of 35 male and 49 female young adults aged 18-25, who did not meet the diagnostic criteria for mood disorder, psychotic disorder or anxiety disorder and who were literate and volunteered for the study, were included. After giving consent to participate in the study, participants were given a Sociodemographic Data Form, Social Problem Solving Inventory-Revised Form (SPSI-R), Social Media Addiction Scale (SMAS), Dysfunctional Attitudes Scale Short Form (DAS-SF), Social Comparison Scale (SCS) and Automatic Thoughts Questionnaire (ATQ) as self-test. According to our findings, we found a significant relationship between social media addiction and social problem solving. Particularly, there was a significant relationship between social problem solving, negative problem orientation, avoidance style subscales and social media addiction. Negative cognition was found to be inversely related to positive social problem solving behavior. We think that evaluating negative cognitions and social problem-solving skills may be beneficial in managing social media addiction.

**Keywords:** social media, problem solving, cognitive behavioral therapy, addictive behavior

## Öz

### Genç Erişkinlerde Bilişsel Faktörlerin Sosyal Problem Çözme ve Sosyal Medya Bağımlılığı ile İlişkisi: Pilot Çalışma

Bu çalışma ile, sosyal medya kullanan bireylerin otomatik düşünce, ara inançlar ve temel inançlarının bilişsel kuramlar çerçevesinde incelenmesi ve bağımlılık düzeylerine göre bilişsel yapılanmalarının karşılaştırılması hedeflenmiştir. Ayrıca sosyal medya kullanan bireylerin bağımlılık düzeylerinin ve davranışlarının belirlenerek sosyal sorun çözme becerileri açısından karşılaştırılması amaçlanmıştır. Çalışmaya 35 erkek ve 49 kadından oluşan 18-25 yaş arası ve psikotik bozukluk, duygudurum bozukluğu ve anksiyete bozukluğu açısından tanı kriterlerini karşılamayan kişiler alınmıştır. Araştırmaya katılma onayını verdikten sonra katılımcılara Sosyodemografik Veri Formu, Sosyal Problem Çözme Envanteri Kısa Form, Sosyal Medya Bağımlılığı Ölçeği, Fonksiyonel Olmayan Tutumlar Ölçeği Kısa Formu, Sosyal Karşılaştırma Ölçeği ve Otomatik Düşünceler Ölçeği uygulanmıştır. Bulgularımıza göre sosyal medya bağımlılığı ile sosyal problem çözme arasında önemli bir ilişkiyi saptandı. Özellikle sosyal problem çözmenin probleme olumsuz yönelim ve kaçıngan tarz alt ölçekleri ile sosyal medya bağımlılığı arasında önemli bir ilişki mevcuttu. Olumsuz bilişlerinin, olumlu sosyal problem çözme davranışı ile ters ilişkili olduğu saptandı. Bireylerin problem çözme değerlendirmelerini iyileştirmede önemli bir etkiye sahip olduğu bildirilen BDT, bu alanda önemli bir seçenek olarak görünmektedir.

**Anahtar Kelimeler:** Sosyal medya, problem çözme, bilişsel davranışçı terapi, bağımlılık davranışı

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## INTRODUCTION

Social media use (interacting with others through online electronic forums such as Facebook, Instagram, Twitter, Youtube etc.) has become an extremely popular tool for social interaction (Berryman, Ferguson, and Negy 2017). The use of social media is an important interaction tool for adolescents and young adults, and in contrast to traditional media, users have an active role (Michikyan and Suárez-Orozco 2016).

It is thought that social media addiction affects about 5% of young people and it is suggested that social media is more addictive than cigarette and alcohol (Lenhart et al. 2015; Health 2017).

Social media use is much more common among adolescents than older generations. The most active age group for social media use is the 16-24 age group (91%). This is followed by the 55-64 age group (51%) and those aged 65 and over (23%). When we look at the use of social media, there is an intergenerational inequality (Statistics 2016).

The recent widespread use of the internet and the controversy about the beneficial and harmful effects on the users has been intensified in the field of literature (Yang and Tung 2007). These debates have led to the emergence of the concepts of internet addiction, which are also called with different terminology such as pathological internet use, problematic internet use and compulsive internet use (Robertson, Yan, and Rapoza 2018). Young speaks of five different types of internet addiction. The first one is computer addiction with computer games, the second one is addiction that focuses on the internet, the third one is the addiction for internet shopping or gambling and the fourth one is for online pornography. The latest and the newest social media addiction type points to excessive and problematic use of social media (Kuss and Griffiths 2011).

The concept of social problem solving is defined by D. Zurilla, Nezu and Maydeu-Olivares as 'a cognitive-behavioral process created in order to find ways to deal effectively with the problematic situations that individuals face in their daily lives (Nezu and D'Zurilla 2006).

According to Bingham, one can influence how a person perceives a problem and how he or she resolves the problem. Often, the primary perception in a problem case is not the problem itself (Bingham 2004).

The problem-solving process is influenced by the individual's personal perceptions or by the way of cognitive evaluation (Bingham 2004; Nezu and D'Zurilla 2006). In this case, one of the factors that make it difficult to find solutions to problems is that individuals have a negative orientation, regarding the problems they face. Negative orientation to problems includes negative thoughts, beliefs or attitudes about problems (Chang, D'Zurilla, and Sanna 2004). The individuals have a negative attitude towards themselves and use the internet to get positive responses from others without risk. Patterns of thoughts are in the style of 'extreme generalization' and 'all or nothing'.

Automatic thoughts appear about themselves such as 'I'm just fine on the Internet.', ' I'm worthless when I'm not on the Internet, but I'm important on the Internet.', 'I'm unsuccessful when I'm not on the Internet.' and thoughts about the outside world such as, 'The only place I am respected is internet.', 'No one loves me when I'm not on the Internet. 'The Internet is my only friend.', 'People treat me badly outside the internet.' Addicted individuals may be more prone to catastrophizing thoughts and anxiety than other people (Young 2007; Şenormancı, Konkan, and Sungur 2010).

The aim of this study is to examine the analysis of automatic thinking, intermediate beliefs and fundamental beliefs of individuals using social media within the framework of cognitive theories and comparison of cognitive structures according to their addiction levels. In addition, it was aimed to determine the addiction levels and behaviors of individuals using social media in terms of their social problem solving skills.

Our hypothesis was that the severity of social media addiction and social problem solving was negatively correlated and that they were related to the intensity of negative or dysfunctional cognitions.

## MATERIALS AND METHODS

### Participants

The study included a total of 35 male and 49 female young adults aged 18-25, who were referred to the psychiatry polyclinics with various complaints of Yenimahalle Training and Research Hospital. After mental state examination and SCID-1 evaluation (reviewed by dsm5 in terms of changing diagnostic criteria), individuals who did not meet the diagnostic criteria for mood disorder, psychotic disorder or

anxiety disorder and who were literate and volunteered for the study, were included. Having chronic physical illness; patients with mental retardation, epilepsy, head trauma, dementia and psychiatric comorbidities were not included in the study. This study was approved by the local Ethics Committee and is in accordance with the ethical standards set out in the 1964 Declaration of Helsinki.

### Instruments

After giving consent to participate in the study, participants were given a Sociodemographic Data Form, Social Problem Solving Inventory-Revised Form, Social Media Addiction Scale, Dysfunctional Attitudes Scale Short Form, Social Comparison Scale and Automatic Thoughts Questionnaire as self-test.

### Sociodemographic data form

It is a form prepared by the research team in order to examine the sociodemographic data such as age, gender, educational status etc. as well as psychiatric and medical diseases of the volunteers.

### Social Media Addiction Scale (SMAS)

The Social Media Addiction Scale (SMAS) has been developed by Tutgun, Ünal and Deniz to measure the social media addictions of university students.

The 5-point Likert-type SMAS, appearing in all validity and reliability studies, which consists of 41 items and is graded using frequency expressions such as 'always', 'often', 'sometimes', 'rarely', 'after all', 'in no time', showed the dimension consisting of four factors (occupation, emotion regulation, repetition and conflict). The Cronbach alpha value, which is the internal consistency coefficient of the scale, was 0.967. The lowest score that can be obtained from SMAS is 41 and the highest score is 205. A total score between 41-73 was considered as no addiction, 74-106 as less addicted, 107-139 as medium addicted, 140-172 as highly addicted and 173-205 considered as very highly addicted. In this study, those with a total score between 41-73 on SMAS were grouped as 'no social media addiction' and those with a score of 74 and above were grouped as 'social media addiction' (Tutgun-Ünal and Deniz 2015).

### Dysfunctional Attitudes Scale Short Form (DAS-R)

The short form was created by Batmaz and Ozdel in our country and validity and reliability studies were conducted. The factor analysis indicated two factors, which is "perfectionism (P)" (first 8 items) and "need for social approval/dependency (NSAP)" (last 5 items) (Batmaz and Ozdel 2016).

### Social Comparison Scale (SCS)

It is a bipolar 18-item scale that evaluates how people perceive themselves when compared to others. The scale is scored on a Likert-type scale of 1-6, and high scores indicate a positive self-concept. The original scale, which was formatted by Allan and Gilbert (Allan and Gilbert 1995), was turned into a scale of 18 items as a result of the study of Şahin and Şahin (Şahin, Durak, and Şahin 1993). The scale was used in many studies to identify fundamental beliefs.

### Automatic Thoughts Questionnaire (ATQ)

There are 30 items in the scale, and for each item 'never', 'sometimes', 'quite often', 'often' and 'always' options are marked, and the answers given are ranging from 1 to 5(Hollon and Kendall 1980). The high scores indicate that the negative automatic thoughts of the individual occur frequently. The scale was conformed to Turkish and validity and reliability studies were performed (Şahin and Şahin 1992).

### Social Problem Solving Inventory-Revised (SPSI-R)

D. Zurilla et al. (2002) developed a tool to measure individuals' problem-solving orientation and skills (Belzer, D'Zurilla, and Maydeu-Olivares 2002). The Social Problem Solving Inventory - Revised (SPSI-R) consists of two dimensions as 'problem orientation 'and 'problem solving styles'. There are two sub-scales in the 'problem orientation' dimension: positive problem orientation (SPSI-PPO) and negative problem orientation (SPSI-NPO). The 'problem solving style' dimension consists of three subscales, namely rational problem solving (SPSI-RPS), impulsivity/carelessness style (SPSI-ICS) and avoidance style (SPSI-AS) (Eskin 2009). Eskin M and Aycan Z. (2009) found that both long and short Tr-SSG-G had sufficient validity and reliability. The internal consistency coefficients of the TR-SSI-G subscales ranged from 0.62 to 0.92, whereas the test-retest reliability coefficients ranged from 0.60 to 0.84. The findings showed that TR-SSI-G had simultaneous validity. In conclusion, the findings of the study suggest that Tr-SPSI-R is a valid and reliable measurement tool that can be used to measure social problem solving skills in Turkish samples (Eskin and Aycan 2009).

### Statistical Method

The data were evaluated with the IBM SPSS 22.0 for Windows Evaluation Version (the statistical package program for the social sciences). The sociodemographic information of the patients was shown as percentage. Numerical variables are indicated with mean and standard deviation; categorical variables meanwhile by number and percentage. The homogeneity of the variance of the groups was evaluated by the Levene test. The difference between the groups in terms of categorical variables was examined by the chi-square test. In parametric comparisons, two independent samples were used. Pearson correlation was used because the parametric assumptions were met for the relationship between numerical variables. P value <0.05 was considered statistically significant in terms of significance.

## RESULTS

The mean age group of the participants was 18-25 years and the mean age was 19.83 (± 2.01). The study included 35 male and 49 female participants. When evaluated in terms of educational year, it was found to be 10 years minimum, the highest was 19 years and the average education year was 12.89 (± 2.07). The social media usage period was determined as at least 1 year and maximum 11 years, while the average social media usage period was determined as 5.7 (± 2.34) years. According to social media usage, Instagram was determined in the 1st place, Facebook in the 2nd place and Twitter in the 3rd place. According to SMAS, 32 people had no addiction, 27 had a low addiction, 15 had a moderate addiction, 8 had a high addiction, 2 had a very high addiction; 52 people were evaluated as addiction. When the 32-person non- addiction group was compared with the 52-person addiction group in terms of social problem solving values, the positive problem-solving values received higher scores in the non-addiction group while the negative problem-solving values received lower scores. There was a significant difference between groups except SPSI-RPS and SPSI-ICS (Table 1).

When the study group of 84 people was taken as a whole and the correlations of the scales were examined; there is a moderately positive correlation between SMAS and SPSI-R and SCS, and a moderate positive correlation between SMAS and ATQ and DAS-R. There was a high negative correlation between SPSI-R and ATQ and DAS-R, and a moderate positive correlation between SPSI-R and SCS (Table 2).

When the sub-scales of SMAS with SPSI-R were evaluated; there was a moderately positive correlation between SMAS and SPSI-NPO and SPSI-R. There was a weak positive correlation with SPSI-AS (Table 3).

**Table 1:** Relationship between addiction and social problem solving inventory subscales

| | *Addiction* | *N* | *Mean* | *S.D.* | *p* |
|---|---|---|---|---|---|
| SPSI-PPO | yes | 52 | 9,4423 | 4,98788 | ,025 |
| | no | 32 | 11,9063 | 4,43854 | |
| SPSI-RPS | yes | 52 | 11,7885 | 4,18371 | .,545 |
| | no | 32 | 12,3750 | 4,48474 | |
| SPSI-NPO | yes | 52 | 13,1346 | 4,74870 | ,000 |
| | no | 32 | 8,2188 | 4,38277 | |
| SPSI-ICS | yes | 52 | 7,4423 | 4,30419 | ,152 |
| | no | 32 | 6,0313 | 4,41759 | |
| SPSI-AS | yes | 52 | 9,0192 | 6,24811 | ,000 |
| | no | 32 | 4,8750 | 3,71353 | |
| SPSI-R | yes | 52 | 51,6346 | 18,02507 | ,001 |
| | no | 32 | 65,1563 | 16,05858 | |

**Table 2:** Correlation among the scales

| | *SMAS* | *SPSI-R* | *ATQ* | *DAS-SF* | *SCS* |
|---|---|---|---|---|---|
| SMAS | 1 | -,493** | ,580** | ,528** | -,441** |
| SPSI-R | -,493** | 1 | -,703** | -,668** | ,551** |
| ATQ | ,580** | -,703** | 1 | ,611** | -,629** |
| DAS-SF | ,528** | -,668** | ,611** | 1 | -,568** |
| SCS | -,441** | ,551** | -,629** | -,568** | 1 |

** p< 0.01

**Table 3:** Subscales correlation of SMBÖ with SPSI-R

| | *SMAS* | *SPSI-PPO* | *SPSI-RPS* | *SPSI-NPO* | *SPSI-ICS* | *SPSI-AS* |
|---|---|---|---|---|---|---|
| SMAS | 1 | -,188 | -,202 | ,537** | ,338** | ,527** |
| SPÇE-PPO | -,188 | 1 | ,508** | -,480** | -,300** | -,445** |
| SPSI-RPS | -,202 | ,508** | 1 | -,227* | -,492** | -,387** |
| SPSI-NPO | ,537** | -,480** | -,227* | 1 | ,476** | ,646** |
| SPSI-ICS | ,338** | -,300** | -,492** | ,476** | 1 | ,523** |
| SPSI-AS | ,527** | -,445** | -,387** | ,646** | ,523** | 1 |

*p< 0.05, **p< 0.01

## DISCUSSION

According to the studies in Turkey, internet addiction among university students is 12.2% (Dalbudak et al. 2013). In another study (Şenormancı et al. 2014), it has been identified as 7.2%. Internet addiction is thought to be related to many psychopathologies. According to a study conducted by Alavi et al. with university students, many psychopathological features (somatization, depression, anxiety, paranoid thought, hostility, interpersonal

sensitivity, obsessive-compulsive traits) are more common in adolescents with IA (Alavi et al. 2011). In a study conducted by Ho et al. (2017) in Singapore, with a population of thousands of adults and four thousand 920 adolescents, it was found that adolescents exhibited more addictive behaviors than adults, and a strong relationship was concluded between self-identity of individuals and excessive social networking (Ho, Lwin, and Lee 2017). Thereby, adolescents were included in this study.

According to our findings, we found a significant relationship between social media addiction and social problem solving. Particularly, there was a significant relationship between social problem solving, negative orientation towards problem, avoidant style subscales and social media addiction. According to other studies, it supports the validity of using self-escape to explain adolescents' internet addiction, thus revealing that adolescents are addicted to internet games in their attempts to escape from their self and reality (Kwon, Chung, and Lee 2011).For individuals who have a negative solution to social problems, social media can provide a protected area, as well as providing a guarantee of exposure to criticism and comments to the extent permitted. In other words, low social problem-solving skills can create a limit between the real social world and individual and social media can emerge as a rapidly accessible and protected way of communication. In our study, we found a relationship between social media addiction and negative automatic thoughts and dysfunctional intermediate beliefs. At the same time, there was an inverse correlation with positive fundamental beliefs. This relationship, which is more conspicuous with automatic thoughts, can be evaluated in relation to the fact that automatic thoughts are the most superficial layer of cognitive structure. According to cognitive approaches, the factors that are effective in the adaptation problems of individuals are inflexible cognitions (Canas et al. 2003). Research suggests that cognitive flexibility has a problem-solving effect, particularly in social interaction and communication (Martin 1998). As with many other addictions, the contribution of negative automatic thoughts, -dysfunctional intermediate beliefs and fundamental beliefs in the formation of social media addiction cannot be denied. Our knowledge about internet addiction and dysfunctional attitudes is limited and a study in the literature in this area shows that dysfunctional attitude scores are high in individuals with internet addiction and a perfectionist attitude is a determinant of this addiction (Şenormancı et al. 2014). In another study, it has been reported that psychopathological symptoms and dysfunctional approaches are associated with internet addiction and that it may be useful to focus on a perfectionist attitude and the need for approval as part of a dysfunctional attitude in cognitive-behavioral treatment (Taymur et al. 2016). The positive effects of using cognitive and behavioral therapies for the treatment of alcohol and substance abuse, cigarette addiction, eating disorders, and pathological gambling have been reported (Hofmann et al. 2012), and several studies have been reported on the benefit of Cognitive Behavioral Therapy (CBT) in the treatment of Internet addiction (Young 2007; van Rooij et al. 2012). In this sense, it is important to understand these cognitive structures in detail and to understand their relationship with psychopathology. There was a high correlation between SPSI-R and negative automatic thoughts and dysfunctional intermediate beliefs. On the other hand, an inverse relationship with positive fundamental beliefs was found. In this sense, it can be said that negative cognitions of individuals are inversely related to positive social problem solving behavior. The Internet can provide an attractive area where individuals can be alone, away from expectations and criticism. However, getting a quick and easy answer to something they are controlling or busy with can be associated with a reward system. In many studies, it was seen that individuals' problem solving strategies had an important relationship with CBT. In fact, problem-solving strategies have been included in Beck's cognitive therapy model to optimize cognitive distortions (Nezu et al. 1998). CBT has been reported to have a significant impact on improving individuals' problem-solving assessments (Chen, Jordan, and Thompson 2006).

### Limitations

In this study, the participants were composed of persons who applied to the outpatient clinic and the lack of a control group was among our limitations. Although they may not be diagnosed with a mood disorder, anxiety disorder, or psychotic disorder, there is a group of participants seeking treatment. In addition, the scales are composed of self-report scales which can cause disparity in filling the scales, as in each self-report scale. But it also does not enable the assessment of cognitive avoidance. Finally, it is a limitation that automatic thoughts do not evaluate depressive symptoms, which forms the structure behind the scenes. In the light of the positive findings obtained from this pilot study, it is thought that studies with larger groups will contribute significantly to the literature.

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