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Research Paper

Validation of the Turkish version of the questionnaire of Internet use motives (MUI)

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ABSTRACT
The present study adapted the "questionnaire of Internet use motives" (MUI) into Turkish based on data collected from 638 adults. Results showed that the Turkish version of the MUI has a high internal consistency (α= .88) along with convergent and discriminant validity. The confirmatory factor analysis results supported the five-factor structure of the original MUI. Internet Addiction Test Short Form (IAT-SF) was used to test concurrent validity. The results indicated a significant positive correlation between the MUI and IAT-SF (r= .83), suggesting that individuals having higher levels of MUI may also tend to have higher levels of Internet addiction. The findings indicated that the adapted scale is a reliable and valid instrument to measure motives for Internet use in the Turkish population.

INTRODUCTION

The development and prevalence of Internet technology in modern society have led to progress in adapting communication technologies in all areas of life (Lai & Gwung, 2013). Parallel to the changes in technology, the use of the Internet has rapidly increased all over the world as smartphones, tablets, and computers become more and more common (Bucher, Fieseler, & Lutz, 2016; Tsai & Lin, 2003). The Internet continues to exist as a mass communication tool accessible at all times with its convenience, ease of communication, and access to information, and as such has become an inseparable part of daily life (Kraut et al., 1998). Seen as the most useful technology for individuals and organizations (Tarık & Mahmood, 2015; Bildt & Smilth, 2016), one of the most important opportunities provided by the Internet is how it facilitates communication.

The Internet has fundamentally changed social relations in modern society by fulfilling functions in many areas such as communication, education, life, and entertainment, both individually and socially, becoming indispensable in the process (Kotwal et al., 2021). For this reason, Internet usage is rapidly increasing, more than doubling over the past ten years from 2.18 billion users to 4.95 billion. While the average Internet usage rate is 65.5% worldwide, this rate is 82% in Turkey, and while the average time spent on the Internet is 7 hours a day in the world, this average is 8 hours in Turkey (We are Social, 2022). Considering that the average individual sleeps for 7-8 hours each day, we can suggest that more than 40% of the time a normal Internet user spends awake is on the Internet. Recent figures put Internet usage times and user rates in Turkey above the world average in certain variables.

Individuals who spend a significant part of their daily lives using the Internet also experience the effects of such use in social, physical, and emotional ways. Although Internet use has the potential for positive contributions to human life, negative effects have also been shown to emerge (Jin, 2013; Chen et al., 2017; Traxler, 2010). The conscious use of the Internet causes many positive psychosocial results such as getting more social support and generally being happy (Hampton & Wellman, 2003; Tifferet, 2020; Ward et al., 2018; Wang et al., 2019), however possible negative impacts of Internet usage include symptoms of depression, anxiety, loneliness, social isolation, and low academic performance due to prolonged use, particularly on social media (Arpaci et al., 2022; Park, Hwang, & Huh, 2010; Shen, Liu, & Wang, 2013).

Literature suggests that the motive around general internet use is discussed mostly within the framework of the Uses and Gratification Theory (USG) (Charney & Greenberg, 2001; Chen, 2011; Ferguson & Perse, 2000; Kaye & Johnson, 2004; Lampe et al., 2010; Sheldon, 2008). This approach shows us that people meet their various needs on the Internet through conscious choice. According to the USG approach, people meet their various psychological and social needs through mass media (Katz, Blumler and Gurevich, 1974). The user decides what to do for oneself depending on variables such as personal habits, preferences, culture, and education (McQuail & Windahl, 2010). Studies based on the USG approach reveal that people's motives for Internet use are affected the need for information, entertainment, status, recreation, social interaction, escapism, visual and auditory stimulation, job seeking, and relaxation (Chamey, 1996; Charney et al. Greenberg, 2002; Fiske, 2003; Kaye, 1998; Leung, 2006; Papacharissi & Rubin, 2000; Park et al., 2009; Wright, 2002). Entertainment in particular is seen as one of the most effective motives behind Internet use (Cheung & Lee, 2009; Haridakis & Hanson, 2009; Johnson & Kaye, 2002; Korgaonkar & Wolin, 1999). Particularly emphasized is how

individuals often use the Internet to exercise the need to rest, relax and escape from other activities (Livingstone, O´lafsson & Staksrud, 2013; Stork, Enrico, & Alison, 2013). As well as this, more basic motives behind internet usage involve the need to improve one's mood, experiencing a platform from which to learn, passive avoidance from other commitments, seeking information and advice, and general social interaction (Grant, 2005).

Another approach that tries to explain the motives behind internet points to addictions (specifically to social media, online gaming, or general addiction to Internet use) (Beard & Wickham, 2016; Rosell et al., 2022; Király, Griffiths, & Demetrovics, 2015; Lee and Park 2014; Xu et al., 2012). Studies on the relationship between Internet use and addictions indicate that the potenital for pleasure encourages the motive to use, contributing to the cyclical nature of addiction (Chun, Lee, & Kim, 2012; Lee, Cheung, & Chen, 2005). There is also a motive arising from the need to establish and maintain social relations and interpersonal relationships (Yoo, 2011). This motive is one that particularly leads to excessive use of the Internet and addiction (Khang et al., 2013; LaRose, Lin, & Eastin, 2003). In addition, the motive for mood regulation also results in excessive Internet use (Khang et al., 2013; Caplan, 2010; Caplan, Williams, & Yee, 2009).

There are many important measurement tools developed to help us understand the motives of Internet use in the world (Amiel & Sargent, 2004; Bischof-Kastner et al., 2014; Dhir et al., 2017; Papacharissi & Rubin, 2000; Senkbeil, 2018) and through this we see that there are many tools in areas where the Internet is heavily used, such as motive to use general social media (Kindi & Alhashmi, 2012; Park & Kim, 2013; Pertegal et al., 2019), motive to use Facebook (Joinson, 2008; Pennington, 2009; Sheldon, 2008), motive to use Instagram (Sheldon et al., 2017), and motive to use Twitter (Lee and Kim, 2014). Although there are some measurement tools for social media usage motives (Balci & Ayhan, 2007; Şişman Eren, 2014), Turkey, however, lacks the measurement tools for understanding Internet use motives specifically. To plug this gap in understand, this study aims to adapt an Internet use motive scale to determine Internet use motive in Turkey and bring it into the literature. To achieve this, researchers aim to create the Turkish version of the MUI ("The questionnaire of Internet use motives"), which was originally developed by Rosell et al., (2022), and to examine the validity and reliability of this questionnaire.

METHOD

Sample and Procedure

Participants voluntarily participated in the study and completed the online form using Google Forms. The study sample consisted of 638 participants from Turkey with a mean age of 22.89 years (SD = 8.11, range = 14-70 years). Of the participants 40.6% were male and 59.4% were female. The majority of the participants (75.5%) were students; 33% of them were freshmen, 18.8% of them were sophomores, 13.1% of them were juniors, 8% of them were seniors, and 2.6% of them were graduate students. While 24.5 % of the participants reported that they are working in various sectors (e.g., education, engineering, health, and service). Moreover, 9.5% of the participants reported that they spend one to two hours on the Internet every day, 29% of them spend three to four hours, 34% of them spend five to six hours, and 27.5% of them spend more than six hours a day.

Instruments

Questionnaire of Internet Use Motives (MUI)

MUI was developed by Rosell et al. (2022) to measure motives for Internet use. The original questionnaire was developed in English. In the present study, the original questionnaire was translated into the Turkish language by three bilingual experts who have a PhD in English language and literature by using a standard "forward-backward" translation procedure. The MUI has 20 items and five dimensions (i.e., enhancement, social, coping, conformity, and utility). The 20 items are rated on a five-point Likert scale ranging from "never" to "always." Cronbach's alpha of the dimensions ranged between .88 and .91 in the original study.

Internet Addiction Test Short Form (IAT-SF)

Pawlikowski, Altstötter-Gleich, and Brand (2013) developed a short form of Young's Internet Addiction Test (Young, 1998) to measure Internet addiction. Kutlu et al. (2016) adapted the IAT-SF into the Turkish language. The scale includes 12 items rated on a five-point Likert scale ranging from "never" to "always." Cronbach's alpha of the IAT-SF was reported as .85.

RESULTS

Reliability and Normality

Cronbach's alpha values for the dimensions of the MUI and the IAT-SF were calculated to assess internal reliability. The dimensions of the MUI displayed adequate internal reliability consistencies ($.719 < \alpha < .801$). Cronbach's alpha value of the total scale was found as .876. Further, Cronbach's alpha value for the IAT-SF was found as .885. Normality was evaluated by using kurtosis and skewness coefficients. Results showed that skewness and kurtosis ranged between -1 and +1, indicating that the data have a normal distribution. Descriptive statistics along with reliability and normality test results were reported in Table 1.

Table 1. Descriptive Statistics and Reliability

Scale	Factor	Mean	S.D.	Skewness (SE =.097)	Kurtosis (SE =.193)	α
MUI	**Enhancement**	3.73	.912	-.655	.157	.801
	Social	2.41	1.02	.424	-.666	.767
	Coping	12.29	4.20	-.092	-.754	.793
	Conformity	9.27	3.79	.667	-.080	.731
	Utility	15.81	3.36	-.715	.075	.719
IAT-SF		2.75	.837	.081	-.283	.885

Discriminant and Convergent Validity

Discriminant and convergent validity were tested by calculating the composite reliability (CR) and average variance extracted (AVE). Results indicated that all CR values are greater than the threshold of .70. The results indicated that most of the AVE values were lower than the threshold of .50. However, Fornell and Larcker (1981) argued that if the CR value is greater than .60, convergent validity can be satisfied for the dimensions with an AVE lower than .50. Accordingly, the results suggested that both discriminant and convergent validity were ascertained. The results indicated that there are significant correlations between most of the dimensions. The square-root of the AVE values were shown in the diagonal of the correlation matrix in Table 2.

Table 2. Convergent and Discriminant Validity

Construct	CR	AVE	Conformity	Enhancement	Social	Coping	Utility
Conformity	.749	.441	**.664**				
Enhancement	.807	.513	.192*	**.716**			
Social	.774	.464	.860*	.306*	**.681**		
Coping	.796	.495	.475*	.661*	.641*	**.703**	
Utility	.738	.421	-.122*	.560*	-.016	.226*	**.649**

Note. *p<.01

Factorial Validity

Factor analysis with varimax rotation was carried out to evaluate factorability. KMO (.889) and Bartlett's sphericity test results showed that data were factorable: χ^2(DF= 190) = 4768.477, p<.001. Further, a confirmatory factor analysis was conducted by using SPSS AMOS v.25 to evaluate how well the dimensions fit the data. Table 3 showed that the Turkish version of the MUI has an adequate model fit: χ^2(DF=159) = 545.991, χ^2/DF = 3.434, p<.001, SRMR= .069, RMSEA= .062 [LO90-HI90= .056-.068], CFI= .917, and TLI= .900. Figure 1 shows the measurement model with standardized regression weights.

Table 3. Model Fit Indices

Fit Indices	MUI	IAT-SF	Reference Value(s)
GFI	.923	.980	≥.90
AGFI	.898	.959	≥.80
NFI	.887	.973	≥.90
CFI	.917	.986	≥.90
TLI	.900	.976	≥.90
IFI	.917	.986	≥.90
RMSEA	.062	.040	≤ .08

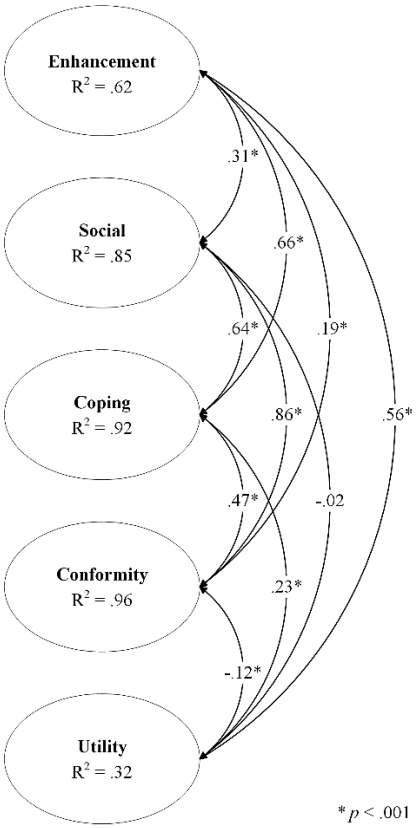

Figure 1. The measurement model

Concurrent Validity

Concurrent validity was tested by correlation analysis between the IAT-SF and MUI. The correlation between IAT-SF and MUI was statistically significant (r= .83, p< .001). The high correlation between the two scales indicated that individuals having higher scores in MUI may also tend to have higher levels of Internet addiction.

DISCUSSION AND CONCLUSION

The Turkish version of the MUI scale developed by Rosell et al., (2022) was created within the scope of the study to assess the validity and reliability of the scale in Turkish culture. The structural validity of the model had adequate fit indices as per the performed DFA (Hair et al., 2010; Joreskog & Sorbom, 1993; Kline, 2005). Thus, the original structure of the scale with 20 items and five dimensions was confirmed in the Turkish sample. It was also compatible with the dimensions referenced in the first development study of the scale (Cooper, 1994; Lee Sargent, 2007; Papacharissi & Rubin, 2000). The Turkish version of the scale provided discriminant and convergent validity as per the results from the composite reliability (CR) and the average variance extracted (AVE) values (Fornell and Larcker, 1981).

The Cronbach alpha internal consistency coefficients calculated in the original development study of MUI demonstrated that the scale's internal consistency as they were consistent with the internal consistency coefficients of the sub-dimensions (enhancement, social, coping, conformity, and utility) (Rosell et al., 2022) calculated for the original version of the scale.
Within the scope of the study, MUI scores showed a highly significant and positive relationship with IAT-SF scores in the analyzes aimed at examining the concurrent validity of the Turkish questionnaire of MUI, which appears to be consistent with other research findings (Bischof-Kastner et al., 2014; Chen et al., 2017; Chun, Lee, & Kim, 2012; Marino et al., 2018) showing that Internet use motives and Internet addiction are related and can be accepted as evidence for the concurrent validity of the Turkish version of the MUI.

People of all age groups use the Internet as a means to deal or cope with unpleasant circumstances and internal struggles. However, studies also emphasize that increases in Internet use to cope with difficult emotions and thoughts is associated with problematic Internet use or technology-based addictions (Bischof-Kastner et al., 2014; Kim & Haridakis, 2009). Another study states that coping motives are directly related to how the Internet is specifically used as well as the personal outcomes of such use (Kardefelt-Winther, 2014), which supports the results of the current study that coping, a sub-dimension of Internet use motives, is related to Internet addiction. Studies further emphasize that intrinsic motives (coping, spending time, entertainment) are strongly associated with problematic Internet use (Chen et al., 2017; Sun et al., 2008). Considering that Internet use motives are important factors in understanding Internet addiction (Carlisle et al., 2019; Chen et al., 2017: Marino et al., 2018), measurement tools have become crucial, and remain crucial, in revealing the motives behind Internet use. This measurement tool will provide the necessary

information within the framework of the obtained data. In addition, this measurement tool can be used for the implementation of Internet addiction prevention programs.

As a result, researchers developed the Turkish version of the MUI in this study, which met the validity and reliability features at a sufficient level. This scale will enable discussions about the Internet use motives of individuals and will add a new dimension to further studies. The fact that this study was conducted with participants, most of whom were students, can be shown among the limitations of this study.

Ethics Committee Approval Information: Ethics committee approval for this study was received from the Ethics Committee of Hakkari University (Date: October 27, 2022; Number: 10, Approval Number: 2022-09)

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