

# Investigating the Mediating Role of Problematic Internet Use in the Relationship between the Coping Humor and Subjective Vitality of University Students

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## ABSTRACT

Subjective vitality is a concept related to the mental health of individuals. Subjective vitality is an important concept for university students. In this context, this study presents a model to explain the subjective vitality of university students. This research investigates the mediating role of problematic internet use in the relationship between coping humor and the subjective vitality of university students. A total of 378 university students (243 females and 135 males, Age mean = 20.27 ± 1.78) participated in the study and completed the Subjective Vitality Scale, Coping Humor Scale, Young Internet Addiction Scale - Short Form, and Personal Information Form. Structural equation modelling was used for data analysis. According to Structural Equation Modeling, coping humor predicts subjective vitality through partial mediation of problematic internet use. The findings suggest that coping humour reduces university students' problematic internet use and thus increases their subjective vitality. In addition, coping humour contributes positively to university students' subjective vitality. In the Discussion and Conclusion section, explanations related to the research findings, limitations of the study, and suggestions for future research are provided.

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### Keywords:<sup>2</sup>

Subjective vitality, coping humor, problematic internet use, university student

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## INTRODUCTION

A paradigm shift in the perspective on mental health has been observed since the 2000s, primarily driven by the emergence of positive psychology. With the advent of positive psychology theory, there has been an increasing trend in research and the growing importance of positive concepts related to mental health. Up until the 2000s, research on mental health predominantly focused on negative affects such as stress, depression, anxiety, or mental disorders (Ryff & Singer, 2008). Moreover, the absence of negative emotions was considered sufficient to deem an individual's mental health intact (Myers & Diener, 1996). However, in present times, the absence of these negative affects alone is no longer deemed sufficient to explain mental health (Demir, 2023). In addition, the presence of a positive effect is also sought. In other words, the absence of negative affect alone is not considered sufficient in terms of mental health; also, individuals are expected to have subjective evaluations that they experience positive affect in their lives. Within the literature of positive psychology, concepts such as subjective well-being, subjective happiness, and life satisfaction are frequently investigated in relation to individuals' subjective evaluations of their mental health. Another concept that points to individuals' positive evaluations of their mental health and has been relatively less researched is subjective vitality.

### SUBJECTIVE VITALITY

The concept of subjective vitality, based on self-determination theory, signifies an individual's state of being lively, energetic, and vital (Ryan & Deci, 2000). The term "vitality" in this context refers not only to physical but also includes mental vitality, thereby encompassing an individual's state characterized by both physical and mental vitality (Ryan & Frederick, 1997). In this respect, subjective vitality is related to both physical and psychological health.

Vitality is described as a lifelong process aimed at maximizing the inherent potential of individuals, representing a lifestyle that is oriented towards growth and change (Deci & Ryan, 2000). Subjective vitality is asserted to have protective and preventive functions for mental well-being. Furthermore, subjective vitality facilitates the engagement of individuals striving to be functional in the context of a healthy life process concerning mental health (Salama-Younes, 2011). Subjective vitality is not an energy derived from external stimuli or threatening factors originating from the external environment. Subjective vitality is an internal

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energy that emanates from within the individual. Since motivation sources are linked to energy arising from internal factors, individuals with high subjective vitality can lead a more fulfilling life and perform their tasks and duties with greater enthusiasm (Nix et al., 1999).

Individuals with high subjective vitality are those who feel fresh, energetic, lively, excited, and cheerful. When examining theoretical explanations, it is observed that subjective vitality has significant positive relationships with concepts such as life satisfaction, self-esteem, and self-actualization (Ryan & Frederick, 1997). Conversely, it is noted to have a negative relationship with sleep disorders, somatic illnesses, sadness, and depressive symptoms (Bostic et al., 2000; Dolunay-çuğ, 2015). Furthermore, individuals with high subjective vitality are productive and capable of coping with stress. These individuals can unlock the potential of their cognitive abilities and exhibit high levels of focus and awareness (Fredrickson, 2001). Considering these characteristics, it can be concluded that there may be a relationship between subjective vitality and coping humor.

### ***COPING HUMOR***

Coping humor is a way that individuals use when faced with a challenging situation to make it more manageable (Martin, 2001). In other words, individuals who face an alarming situation can make it more manageable by using humor (Lefcourt, 2001). Coping humor involves shifting one's focus from magnifying the difficulty of a situation and making it seem insurmountable to highlighting the absurd, contradictory, or humorous aspects of the situation, thereby rendering it more manageable. It can be considered that individuals' ability to cope with challenging situations through humor is related to their cognitive abilities, as it involves dealing with the situation using humor instead of getting anxious and turning the situation into something more traumatic. From this perspective, it is worthwhile to explore whether there is a relationship between coping with humor and subjective vitality.

Many responses exhibited by individuals when they attempt to cope with a negative situation often encompass efforts to suppress negative emotions. Coping through humor not only entails the suppression of negative emotions but also involves their transformation into positive ones (Doosje et al., 2012). Humor has the capacity to diminish the seriousness of negative situations, thereby safeguarding individuals from negative emotional states. In this regard, it can be argued that humor plays a significant role in helping individuals exposed to stress cope with their negative emotional states (Lefcourt et al., 1995). Coping humour helps generate cognitive solutions for negative situations and assists in mitigating the adverse consequences of these situations (Abel, 2002).

When examining the existing literature, it is observed that individuals who use humor tend to have lower levels of depression and anxiety (Menendez-Aller et al., 2020), while also demonstrating higher levels of optimism, self-esteem, and life satisfaction (Zhao et al., 2014). In this regard, a high level of coping humor may serve as a protective factor for psychological health in how individuals deal with life challenges. Conversely, a low level of coping through humor may be regarded as a risk factor for psychological health.

### ***PROBLEMATIC INTERNET USE***

A concept that can be considered a risk factor for individuals is problematic internet use (Ceyhan et al., 2007). Problematic internet use refers to the discomfort and functional impairment experienced by individuals due to their inability to control their internet use (Shapira et al., 2003). Problematic internet use is defined as unhealthy use of the internet. Problematic usage of the Internet the negative impact of such excessive use on daily life and the inability to reduce this behaviour despite the desire to do so indicate that an individual is engaging in problematic internet usage (Weinstein & Lejoyeux, 2010).

In the literature, terms such as internet addiction (Young, 1996) and pathological internet use (Davis, 2001) are synonymous with problematic internet usage. However, because the diagnostic criteria for internet use exclude a diagnosis related to unhealthy use of the internet, the term "problematic internet usage" has been preferred in this study.

When the literature is examined, there are some signs indicating that individuals have problematic internet use. Some of these are excessive mental pre-occupation with internet use, longer internet usage than planned, the feeling of using the internet for longer and longer periods of time to achieve satisfaction, making repeated unsuccessful attempts to reduce or stop using the internet, risking or jeopardising work, education, important relationships or career opportunities because of the internet, and using the internet to escape from problems or to distract from negative emotions (Arisoy, 2009; Young, 1998).

Problematic internet use encompasses both specific and general problematic internet use (Davis, 2001). Specific problematic internet use refers to excessive internet use in specific areas, such as playing games or gambling exclusively on the internet. In specific problematic internet use, it is emphasized that the usage is related to the opportunities and content provided by the internet itself, rather than the internet as a whole. General problematic internet use, on the other hand, denotes excessive use of the internet for leisure without a specific purpose. However, whether it is general problematic internet use or specific problematic internet use, both situations indicate problematic internet use.

### **THE PRESENT STUDY**

When the literature is examined, it is evident that there are various studies concerning the mental health of university students. In these studies, explanations regarding mental health are often based on variables such as subjective well-being, psychological well-being, and life satisfaction. Consequently, there is relatively limited research on the subjective vitality of university students. However, the subjective vitality of university students is an important indicator of their mental health. As explained under the concept of subjective vitality, it encompasses both physical and mental vitality. Considering the developmental stage in which university students are in, it can be argued that both physical and mental vitality hold significant importance for their overall well-being.

It has been asserted that coping with humor has positive contributions to both physical and mental health. Individuals can reduce their anxiety and stress levels by using humor when faced with challenging situations, thereby assisting in the preservation of the immune and muscular systems (Du Pre, 1998). Additionally, laughter is noted to reduce the functioning of stress-related hormones, increase endorphin production, and regulate respiration and blood circulation (Fry, 1994). Furthermore, individuals with higher levels of humor are reported to have higher levels of self-esteem and self-worth, make more positive and self-protective cognitive evaluations when experiencing stress, and experience more positive emotions despite negative life events. In this context, university students, who may encounter various challenging situations in their daily lives, coping with these situations through humor can serve as a positive predictor of their subjective vitality. At the same time, one of the populations in which problematic internet usage is most prevalent is university students (Chi et al., 2016; Joseph et al., 2021). University students with high levels of problematic internet usage may experience disruptions in their daily tasks, reductions in their social relationships, and difficulties in finding a solution to their problematic internet use despite being aware of it (Ceyhan et al., 2007).

University students who encounter various difficulties in their daily lives are often reported to resort to the internet frequently and replace face-to-face communication with online communication (Baturay & Toker, 2019; Colak, 2022). Therefore, an individual's relationships with real-life interactions tend to deteriorate, leading to increased feelings of loneliness over time (Inderbitten et al., 1997). As a result, internet usage can become a vicious cycle for the individual (Durak-Batıgün & Hasta, 2010).

It has been noted that university students with higher levels of problematic internet usage experience higher levels of depression (Ceyhan & Ceyhan, 2008), anxiety (Kutuk, 2023), and loneliness (Hasmulaj, 2016), as well as lower levels of psychological well-being (Sharma & Sharma, 2018) and self-esteem (Bahrainian et al., 2008). Discovering one's mental potential, the ability to focus easily, and maintaining a high level of awareness are important concepts for university students.

Subjective vitality has been noted to have positive and significant relationships with concepts such as psychological well-being, adaptation to university, self-efficacy, and life satisfaction among university students (Fini et al., 2010). In university students, humor has been observed to be a predictor of self-esteem, social support, life satisfaction (Zhaou et al., 2014), optimism, and mental health (Yue et al., 2010).

In the literature, no research has been found regarding the relationships between university students' use of humor as a coping mechanism and their subjective vitality. Furthermore, the commonly observed problematic internet usage among university students may play a mediating role between these two variables. In this context, this study aims to investigate whether problematic internet use plays a mediating role in the relationship between university students' coping with humor and their subjective vitality.

### **METHOD**

In this section, a methodological description is provided that encompasses the study design, the composition of the participant cohort, the instrumentation used for data collection, and the methodologies employed in the data analysis.

## ***PARTICIPANTS AND THE PROCEDURE***

In this study, the participants were reached through online platforms. The data of the research were also collected via the internet using Google forms. Within the framework of this study, rigorous adherence to research and publication ethics was maintained throughout all phases of the investigative process. For the purposes of this research, an application was submitted by the researcher to the Eskişehir Osmangazi University Social and Human Sciences Human Research Ethics Committee. Ethical approval was obtained from Eskişehir Osmangazi University Social and Human Sciences Human Research Ethics Committee (Approval Number: 2300186721). The research was carried out involving 378 voluntary university students from various universities in Türkiye ( $Age_{range} = 18-26$ ,  $Age_{mean} = 20.27$ ,  $Age_{sd} = 1.78$ ). Among the participants, 243 (64.3%) were female, while 135 (35.7%) were male. An analysis of the distribution of university students concerning their academic class levels revealed that 196 (44.7%) were freshmen, 75 (19.8%) were sophomores, 68 (18.0%) were juniors, and 66 (17.5%) were seniors. In the scope of the research, the voluntary participation form, personal information form, and scales intended for use were initially prepared using Google Forms and made ready for participants' use. During the data collection phase, participants were first asked to complete the voluntary participation form. Participants who completed the voluntary participation form proceeded to complete the personal information form and the scales for use in the research on the next page of Google Forms. A total of 407 participants' data were collected in the study. Data from participants who withdrew (13 participants) and those who left more than three items of the scales incomplete (16 participants) were excluded, and the analyses were conducted with 378 participants.

## ***MEASURES***

### ***SUBJECTIVE VITALITY SCALE***

The subjective vitality scale developed by Ryan and Frederick (1997) is capable of measuring individuals' subjective vitality levels. The scale consists of 7 items in total (e.g., "I feel alive and vital", "I look forward to each new day") and employs a 7-point Likert-type rating system. The potential scores that can theoretically be obtained from the scale range from 7 to 49, with higher scores indicating stronger levels of subjective vitality in individuals. The adaptation of the scale to Turkish was conducted by Akn, Satc, Arslan, Akn, and Kayış (2012) among university students. During the adaptation process, confirmatory factor analysis indicated a good fit for the scale, with the following fit indices:  $\chi^2/df = 1.74$ , GFI = .99, CFI = 1.00, NFI = .99, AGFI = .96, and RMSEA = .047. In the adaptation study, the reliability coefficient of the scale was .84. The Cronbach's alpha coefficient for the scale is .84. The corrected item-total correlations for the Turkish version of the scale range from .48 to .74.

### ***COPING HUMOR SCALE***

The Coping Humor Scale was developed by Martin & Lefcourt (1983). Its adaptation into Turkish was conducted by Yerlikaya (2009). The scale is used to assess the extent to which individuals use humor as a coping mechanism. It is a unidimensional scale consisting of 7 items (e.g., "I have often found that my problems have been greatly reduced when I tried to find something funny in them", "It has been my experience that humor is often a very effective way of coping with problems"). The scale employs a four-point Likert-type rating system. Potential scores on the scale range from 7 to 28, with higher scores indicating a higher level of using humor as a coping mechanism in stressful situations by individuals. Criterion-related validity studies were conducted during the adaptation of the scale to Turkish, revealing that the scale has significant negative correlations with perceived stress, depression, and anxiety. The internal consistency coefficient calculated during the adaptation studies is 0.67 (Yerlikaya, 2009).

### ***YOUNG INTERNET ADDICTION SCALE-SHORT FORM***

The scale developed by Young (1998) was adapted to Turkish by Kutlu, Savcı, Demir, and Aysan (2016). The scale is unidimensional and consists of 12 items (e.g., "How often do you find that you stay on-line longer than you intended?", "How often do you choose to spend more time on-line over going out with others?"). Scoring is done on a 5-point Likert-type rating scale, and potential scores on the scale can range from 12 to 60, with higher scores indicating an increase in individuals' problematic internet use levels. The unidimensional structure of the scale was confirmed during the Turkish adaptation study with university students ( $\chi^2/df = 2.78$ , CFI = .95, GFI = .93, AGFI = .90, IFI = .91, RMSEA = .07), and it was reported that the internal consistency coefficients were at an acceptable level, with a value of .91.

### PERSONAL INFORMATION FORM

The Personal Information Form, prepared by the researcher, includes questions related to participants' genders, ages, and academic class levels.

### VOLUNTARY PARTICIPATION FORM

In this form, participants have been informed about the purpose of the study. In addition, it is emphasized that participation in the research is based on voluntary consent, and participants have the right to withdraw their participation at any time. Furthermore, the researcher's contact information has been provided.

### DATA ANALYSIS

The descriptive statistics of the variables were initially examined, and the relationships between the variables were explored. Subsequently, following Anderson and Gerbing's (1988) recommendation, a two-step structural equation modelling (SEM) approach was employed. According to this recommendation, the measurement model was first tested. After confirming the measurement model, the hypothetical structural model was investigated. Age and gender were entered in the structural model as control variables.

In this study, to provide additional evidence for the significance of the paths in the best-fitting model obtained through SEM, the bootstrapping technique was also used. By performing 5,000 bootstrapping iterations, coefficients and confidence intervals were generated. The examined path was considered significant if the confidence interval excluded zero (Hayes, 2018). The analyses were conducted using IBM SPSS® Statistics 21.00 and AMOS Graphics.

### LIMITATIONS OF THE STUDY

This study has some limitations. In this study, the participants filled in the measurement tools used in the research based on self-report measurement. In future research, more in-depth techniques such as observation and interviews could be employed to obtain deeper insights. Another limitation of the study stems from the methodological challenge of establishing causal relationships. Experimental and longitudinal studies are necessary to explain the causal relationships among the variables searched in this research

### FINDINGS

Table 1 presents the descriptive statistics for the variables, including means, standard deviations, skewness, and kurtosis coefficients, as well as the relationships between the variables.

**Table 1. Descriptives and correlations among variables**

Variables	Descriptive statistics				Correlations		
	Mean	SD	Skew.	Kurt.	1	2	3
1. Humor coping	16.08	3.37	-.006	-.050	–		
2. Problematic internet use	26.07	7.57	.662	.693	-.25**	–	
3. Subjective vitality	32.32	8.48	-.434	-.066	.33**	-.29**	–

\*\*  $p < .001$

As shown in Table 1, there are significant negative relationships between humor coping and problematic internet use ( $r = -.25, p < .001$ ). On the other hand, humor coping is positively correlated with subjective vitality ( $r = .33, p < .001$ ). Lastly, problematic internet use coping is negatively associated with subjective vitality ( $r = -.29, p < .001$ ).

### MEASUREMENT MODEL

The first step in SEM, which is the measurement model, included three latent variables (humor coping, problematic internet use, and subjective vitality) and seven observed variables. The analysis results indicate that the measurement model fits well: [ $\chi^2(11, 378) = 13.57, \chi^2/df = 1.23, p < .001; AGFI = .974; NFI = .988; CFI = .998; GFI = .990; SRMR = .016; RMSEA = .025$ ]. In addition, it was found that path coefficients in the measurement model ranged from .633 to .934, and all path coefficients were significant. Therefore, it can be concluded that the measurement model has adequate fit indices for testing structural models.

### STRUCTURAL MODEL

In the structural model, the relationship between humor coping (independent variable) and subjective vitality (dependent variable) was tested by meditating problematic internet use. The analysis results indicated that, considering the goodness of fit indices of the mediation model, all of them fall within acceptable limits: [ $\chi^2(23, 378) = 80.58, \chi^2/df = 3.50, p < .001; AGFI = .919; NFI = .936; CFI = .953; GFI = .958; SRMR = .072; RMSEA$

= .080]. Furthermore, in this model, it was found that all path coefficients were significant. Additionally, it can be noted that the indirect effect of humor coping on subjective vitality through problematic internet use was also significant (bootstrap coefficient = .083, 95% CI = [.038, .153]). The findings obtained are depicted in Figure 1.

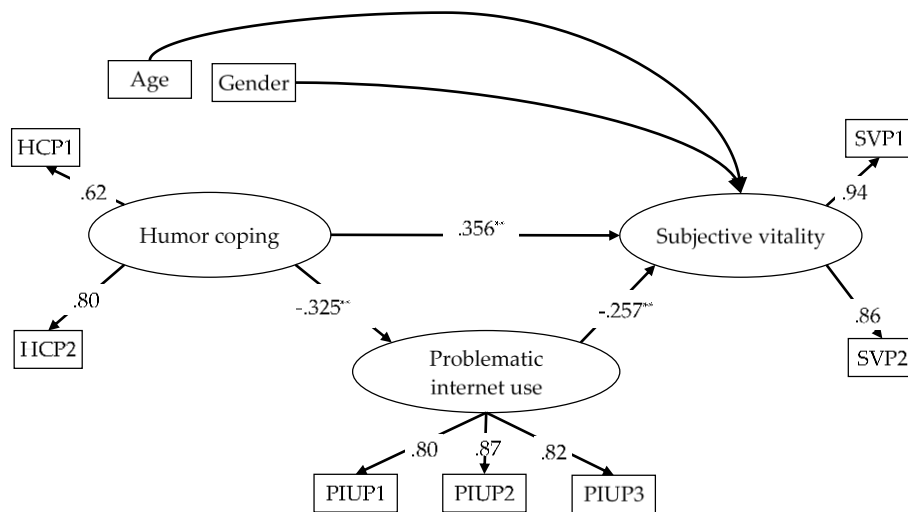


Figure 1. The standardized path coefficients for the mediation model

## RESULTS, DISCUSSION, and SUGGESTIONS

This study proposes a model aimed at identifying the determinants that contribute to subjective vitality. In this context, the mediating role of problematic internet use in the relationship between humor coping and subjective vitality among university students was investigated. The results indicated that humor coping exhibited a direct path that significantly increased subjective vitality. It was also found that humor coping exhibited a direct path that significantly decreased problematic internet use. Furthermore, it was determined that problematic internet use plays a partial mediating role between humor coping and subjective vitality among university students. In this section, the paths in the structural model have been explained.

First, the positive prediction of humor coping on subjective vitality is addressed. Humor is an effective way to cope with difficult situations encountered in life (Sliter et al., 2014). It is thought that individuals' use of humor while coping with problems has a facilitating effect on overcoming problems. Furthermore, it can be asserted that humor is not only employed in dealing with problems but also during social interactions. Individuals can establish more satisfying social bonds through humor in social relationships (Treger et al., 2013).

The coping mechanism of humor encompasses not only the suppression of adverse emotional states and their transmutation into positive affective experiences (Doosje et al., 2012). Humor possesses the capacity to attenuate the gravity of unfavorable circumstances, thereby providing protection against harmful emotional dispositions. In this context, it can be contended that humor plays a pivotal role in facilitating coping among individuals subjected to stress-induced negative emotional states, as elucidated by Lefcourt et al. (1995). Coping humor contributes to the generation of cognitive strategies for addressing adverse situations and aids in the reduction of the detrimental consequences thereof. In this context, the finding of humor coping significantly and positively predicting subjective vitality is an anticipated and congruent result with the existing literature.

Another finding of the study is that humor coping significantly negatively predicts problematic internet use. Problematic internet use refers to individuals' unhealthy use of the internet in their daily lives. It is thought that problematic internet use may occur as an escape behaviour because of individuals' inability to cope with the challenging situations they face in their lives. Problematic internet users often prefer internet usage over dealing with their daily lives (Young, 1998). In other words, these individuals may choose to spend time on the internet rather than coping with their daily responsibilities, effectively neglecting their duties. Internet usage can divert problematic internet users from their responsibilities throughout their usage period and provide an enjoyable virtual environment. Problematic Internet users prefer to overuse the internet instead of fulfilling their daily responsibilities. Coping humour represents a strategy employed by individuals

when confronted with challenging circumstances to render them more manageable (Martin, 2001). In essence, individuals facing distressing situations have the capacity to enhance manageability by invoking humor, as delineated by Lefcourt (2001). This phenomenon entails a cognitive shift away from accentuating the difficulty of a given situation and perceiving it as insurmountable, towards a focus on its absurd, paradoxical, or humorous facets, thereby imbuing it with enhanced manageability. It can be posited that the ability of individuals to cope with challenging scenarios through humor is intricately linked to their cognitive aptitudes, as it entails addressing adversity by deploying humor as an alternative to succumbing to anxiety and thereby mitigating the transformation of the situation into a more traumatic experience. Given that humor coping is one of the ways individuals deal with the problems they encounter, it is plausible to assert that the finding that humor coping negatively predicts problematic internet use is reasonable. In other words, this finding indicates that one of the contributing factors to problematic internet use is a low level of humor coping.

Another significant pathway is problematic internet use, which significantly negatively predicts subjective vitality. Problematic internet usage is observed to have a negative relationship with positive concepts such as psychological well-being (Sharma & Sharma, 2018) and life satisfaction (Longstreet & Brooks, 2017). Problematic internet users exhibit a notable proclivity for prolonged periods of physical inactivity throughout a significant portion of their daily routine. However, it is imperative to underscore that subjective vitality encompasses not only mental but also physical vitality. Considering this perspective, it is conceivable that individuals who tend to engage in minimal physical movement during episodes of problematic internet use may concurrently experience diminished levels of physical vitality. Moreover, in addition to their sedentary physical behaviors, problematic internet users also manifest a penchant for mental inactivity. Specifically, it can be posited that the cognitive faculties of problematic internet users are predominantly preoccupied with their internet utilization during such periods, thereby expending their mental energy primarily on internet-related activities while constraining their engagement in cognitive endeavors that may be requisite for other domains of life. Because subjective vitality expresses a state of inner energy and vitality, it can be said to contribute positively to mental health. In this context, the finding that problematic internet use negatively predicts subjective vitality is consistent with the existing literature.

Finally, the mediating role of problematic internet use between coping humor and subjective vitality in university students was discussed. Subjective vitality is considered an important concept for university students. Because university students may face many issues at the same time because of the developmental period they are in. It can be said that a high level of subjective vitality plays an important role in coping with these issues. Additionally, it is worth noting that the high subjective vitality of these individuals will provide a valuable advantage for their future careers, as it enables them to focus on their academic progress throughout their university education. However, a group with the highest rate of problematic internet use is university students (Ceyhan et al., 2007). While the educational use of the internet is beneficial for university students, the exact transition from healthy to unhealthy internet usage is not yet fully understood. Moreover, the research has found that as the level of humor coping decreases among university students, their levels of problematic internet usage increase. Due to increased problematic internet usage, their subjective vitality decreases. It can be said that due to their inability to employ humor in coping with the challenges they encounter in their daily lives, university students may increase their recreational internet usage as a means to escape from anxiety. Because of increased internet usage, individuals may indeed transition into becoming less socially engaged, less physically active, and less mentally involved. Because of all these, it can be said that the subjective vitality of individuals will decrease.

Based on the results of this research, some suggestions can be made. The research findings indicate that humor coping is a positive predictor of subjective vitality. Therefore, psychoeducational programs aimed at enhancing humor coping skills can be designed for individuals with lower levels of humor coping. In addition, problematic internet use negatively predicts subjective vitality. Accordingly, problematic internet use is a risk factor for university students' psychological health. Therefore, psychoeducation programs can be organized for individuals with high levels of problematic internet use. University students can be informed about the possible harms of problematic internet use through various courses, trainings, or seminars.

#### **Declarations**

##### **Conflict of Interest**

No potential conflicts of interest were disclosed by the author with respect to the research, authorship, or publication of this article.

### **Ethics Approval**

Formal ethics approval was granted by the Social and Human Sciences Research and Publication Ethics Committee of Osmangazi University. We conducted the study in accordance with the Helsinki Declaration of 1975.

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### **Research and Publication Ethics Statement**

This study was approved by the Social and Human Sciences Human Research Ethics Committee of Eskişehir Osmangazi University (Approval Number: 2300186721). Hereby, I as the author consciously assure that for the manuscript "Investigating the Mediating Role of Problematic Internet Use in the Relationship Between Coping Humor and Subjective Vitality of University Students" the following is fulfilled:

- This material is the authors' own original work, which has not been previously published elsewhere.
- This paper reflects the author's own research and analysis in a truthful and complete manner.
- The results are appropriately placed in the context of prior and existing research.
- All sources used are properly disclosed.

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### **Contribution Rates of Authors to the Article**

The first author contributed 100% of this research.

## **REFERENCES**

- Abel, M. H. (2002). Humor, stress and coping strategies. *Humor: International Journal of Humor Research*, 15 (4), 365-381. <https://doi.org/10.1515/humr.15.4.365>
- Akın, A., Satıcı, S. A., Arslan, S., Akın, U., & Kayıs, A. R. (2012). The validity and the reliability of the Turkish version of the Subjective Vitality Scale (SVS). In *4rd World Conference on Educational Sciences, Barcelona, Spain*.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411. <https://doi.org/10.1037/0033-2909.103.3.411>
- Arisoy, Ö. (2009). İnternet bağımlılığı ve tedavisi. *Psikiyatride Güncel Yaklaşımlar*, 1, 55-67. <https://dergipark.org.tr/tr/pub/pgy/issue/11166/133473>
- Bahrainian, S. A., Alizadeh, K. H., Raeesoon, M. R., Gorji, O. H., & Khazae, A. (2014). Relationship of internet addiction with self-esteem and depression in university students. *Journal of Preventive Medicine and Hygiene*, 55 (3), 86-89. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4718307/>
- Baturay, M. H., & Toker, S. (2019). Internet addiction among college students: Some causes and effects. *Education and Information Technologies*, 24, 2863-2885. <https://doi.org/10.1007/s10639-019-09894-3>
- Bostic, T. J., Rubio, D. M., & Hood, M. A. (2000). Validation of the subjective vitality scale using structural equation modelling. *Social Indicators Research*, 52(3), 313-319. <https://doi.org/10.1023/A:1007136110218>
- Ceyhan E., Ceyhan A. A., & Gürcan, A. (2007). The validity and reliability of the problematic internet usage scale. *Educational Sciences: Theory & Practice*, 7, 387-416. <https://earsiv.ankadolu.edu.tr/xmlui/bitstream/handle/11421/14860/14860.pdf?sequence=1&isAllowed=y>
- Ceyhan, A. A., & Ceyhan, E. (2008). Loneliness, depression and computer self-efficacy as predictors of problematic internet use. *CyberPsychology & Behavior*, 11(6), 699-701. <https://doi.org/10.1089/cpb.2007.0255>
- Chi, X., Lin, L., & Zhang, P. (2016). Internet addiction among college students in China: Prevalence and psychosocial correlates. *Cyberpsychology, Behavior, and Social Networking*, 19(9), 567-573. <https://doi.org/10.1089/cyber.2016.0234>
- Colak, R. (2022). Investigation of higher education institutions' social media uses in the context of public relations: The example of Twitter. *Journal of Social and Educational Research*, 1(1), 35-42. <https://www.journalser.com/jser/article/view/13>
- Davis, R. A. (2001). A cognitive-behavioral model of pathological internet use. *Computers in Human Behavior*, 17, 187-195. [https://doi.org/10.1016/S0747-5632\(00\)00041-8](https://doi.org/10.1016/S0747-5632(00)00041-8)
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. [https://doi.org/10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01)
- Demir, E. (2023). Exploring the nexus of positive childhood experiences and conflict resolution styles: Unveiling the keys to harmonious relationship dynamics. *Journal of Social and Educational Research*, 2(1), 8-13. <https://www.journalser.com/jser/article/view/17>



- Dolunay Cuğ, F. (2015). *Self-forgiveness, self-compassion, subjective vitality, and orientation to happiness as predictors of subjective well-being* [Doctoral thesis]. Middle East Technical University. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>
- Doosje, S., Landsheer, J. A., de Goede, M. P., & van Doornen, L. J. (2012). Humorous coping scales and their fit to a stress and coping framework. *Quality & Quantity*, *46*, 267-279. <https://doi.org/10.1007/s11135-010-9348-2>
- Durak-Batigün, A., & Hasta, D. (2010). Internet addiction: An evaluation in terms of loneliness and interpersonal relationship styles. *Anatolian Journal of Psychiatry*, *11*, 213-219. <https://alpha-psychiatry.com/Content/files/sayilar/126/213-219.pdf>
- Fini, A. A. S., Kavousian, J., Beigy, A., & Emami, M. (2010). Subjective vitality and its anticipating variables on students. *Procedia-Social and Behavioral Sciences*, *5*, 150-156. <https://doi.org/10.1016/j.sbspro.2010.07.064>
- Fredrickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218-226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Fry, W. F. (1994). The biology of humor. *Humor: International Journal of Humor Research* *7*(2), 111-126. <https://doi.org/10.1515/humr.1994.7.2.111>
- Hasmujaj, E. (2016). Internet addiction and loneliness among students of University of Shkodra. *European Scientific Journal*, *12*(29), 397-407. <https://doi.org/10.19044/esj.2016.v12n29p397>
- Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. The Guilford Publications.
- Inderbiten, H. M., Walters, K. S., & Bukowski A. L. (1997). The role of social anxiety in adolescent peer relations: differences among sociometric status groups and rejected sub-groups. *Journal of Clinic Child Psychology*, *26*, 338-348. [https://doi.org/10.1207/s15374424jccp2604\\_2](https://doi.org/10.1207/s15374424jccp2604_2)
- Joseph, J., Varghese, A., Vijay, V. R., Dhandapani, M., Grover, S., Sharma, S., Khakha, D., Mann, S., & Varkey, B. P. (2021). Prevalence of internet addiction among college students in the Indian setting: a systematic review and meta-analysis. *General Psychiatry*, *34*(4). <https://gpsych.bmj.com/content/gpsych/34/4/e100496.full.pdf>
- Kutlu, M., Savci, M., Demir, Y., & Aysan, F. (2016). Turkish adaptation of Young's Internet Addiction Test-Short Form: A reliability and validity study on university students and adolescents. *Anatolian Journal of Psychiatry*, *17*(S1), 69-77. <https://alpha-psychiatry.com/en/turkish-adaptation-of-young-s-internet-addiction-test-short-form-a-reliability-and-validity-study-on-university-students-and-adolescents-131448>
- Kutuk, H. (2023). Investigating the role of resilience as a mediator in the link between internet addiction and anxiety. *Journal of Social and Educational Research*, *2*(1), 14-21. <https://www.journalser.com/jser/article/view/15>
- Lefcourt, H. M. (2001). *Humor: The psychology of living buoyantly*. (1st ed.), Springer Science & Business Media.
- Lefcourt, H. M., Davidson, K., Shepherd, R., Phillips, M., Prkachin, K., & Mills, D. (1995). Perspective-taking humor: Accounting for stress moderation. *Journal of Social and Clinical Psychology*, *14*(4), 373-391. <https://doi.org/10.1521/jscp.1995.14.4.373>
- Longstreet, P., & Brooks, S. (2017). Life satisfaction: A key to managing internet & social media addiction. *Technology in Society*, *50*, 73-77. <https://doi.org/10.1016/j.techsoc.2017.05.003>
- Martin, R. A. (2001). Humor, laughter, and physical health: methodological issues and research findings. *Psychological Bulletin*, *127*(4), 504-519. <https://doi.org/10.1037/0033-2909.127.4.504>
- Martin, R. A., & Lefcourt, H. M. (1983). Sense of humor as a moderator of the relation between stressors and moods. *Journal of Personality and Social Psychology*, *45*(6), 1313-1324. <https://doi.org/10.1037/0022-3514.45.6.1313>
- Martin, R. A., Kuiper, N. A., Olinger, L. J., & Dance, K. A. (1993). Humor, coping with stress, self-concept, and psychological well-being. *Humor*, *6*(1), 89-104. <https://doi.org/10.1515/humr.1993.6.1.89>
- Menéndez-Aller, Á., Postigo, Á., Montes-Álvarez, P., González-Primo, F. J., & García-Cueto, E. (2020). Humor as a protective factor against anxiety and depression. *International Journal of Clinical and Health Psychology*, *20*(1), 38-45. <https://doi.org/10.1016/j.ijchp.2019.12.002>
- Myers, D. G., & Diener, E. (1996). The pursuit of happiness. *Scientific American (Periodical)*, *7*(2), 44-48. <http://labs.psychology.illinois.edu/~ediener/Documents/Pursuit.Happ.scientific%20american.pdf>
- Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology*, *35*(3), 266-284. <https://doi.org/10.1006/jesp.1999.1382>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, *65*(3), 529-565. <https://doi.org/10.1111/j.1467-6494.1997.tb00326.x>
- Ryff, C. D., & Singer, H. B. (2008). Know thyself and become what you are: a eudaimonic approach to psychological well-being. *Journal of Happiness Studies*, *9*, 13-39. <https://doi.org/10.1007/s10902-006-9019-0>
- Salama-Younes, M. (2011). Positive mental health, subjective vitality and satisfaction with life for French physical education students. *World Journal of Sport Sciences*, *4*(2), 90-97. [http://idosi.org/wjss/4\(2\)11/2.pdf](http://idosi.org/wjss/4(2)11/2.pdf)

- Shapira, N. A., Lessig, M. C., Goldsmith, T. D., Szabo, S. T., Lazoritz, M., Gold, M. S., & Stein, D. J. (2003). Problematic internet use: proposed classification and diagnostic criteria. *Depression and Anxiety*, 17, 207-216. <https://doi.org/10.1002/da.10094>
- Sharma, A., & Sharma, R. (2018). Internet addiction and psychological well-being among college students: A cross-sectional study from Central India. *Journal of Family Medicine and Primary Care*, 7(1), 147-151. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5958557/>
- Sliter, M., Kale, A., & Yuan, Z. (2014). Is humor the best medicine? The buffering effect of coping humor on traumatic stressors in firefighters. *Journal of Organizational Behavior*, 35(2), 257-272. <https://doi.org/10.1002/job.1868>
- Treger, S., Sprecher, S., & Erber, R. (2013). Laughing and liking: Exploring the interpersonal effects of humor use in initial social interactions. *European Journal of Social Psychology*, 43(6), 532-543. <https://doi.org/10.1002/ejsp.1962>
- Weinstein, A., & Lejoyeux, M. (2010). Internet addiction or excessive internet use. *The American Journal of Drug and Alcohol Abuse*, 36(5), 277-283. <https://doi.org/10.3109/00952990.2010.491880>
- Yerlikaya, E. E. (2009). *The relationship between humor styles and perceived stress, anxiety and depression of college students* [Doctoral thesis]. Cukurova University. <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>
- Young, K. S. (1996). Internet addiction; the emergence of new clinical disorder. *CyberPsychology & Behavior*, 1, 237-244. <https://doi.org/10.1089/cpb.1998.1.237>
- Young, K. S. (1998). *Caught in the net: How to recognize the signs of internet addiction--and a winning strategy for recovery*. John Wiley & Sons.
- Yue, X. D., Hao, X., & Goldman, G. L. (2010). Humor styles, dispositional optimism, and mental health among undergraduates in Hong Kong and China. *Journal of Psychology in Chinese Societies*, 11(2), 173-188. [https://scholars.cityu.edu.hk/en/publications/publication\(530280f9-43b7-4fcc-b1fd-808dec06c347\).html](https://scholars.cityu.edu.hk/en/publications/publication(530280f9-43b7-4fcc-b1fd-808dec06c347).html)
- Zhao, J., Wang, Y., & Kong, F. (2014). Exploring the mediation effect of social support and self-esteem on the relationship between humor style and life satisfaction in Chinese college students. *Personality and Individual Differences*, 64, 126-130. <https://doi.org/10.1016/j.paid.2014.02.026>