

Bilal KAYA1



Çukurova University, Department of Educational Sciences, Counseling and Guidance, Adana, Turkey



Geliş Tarihi/Received Date 10.03.2023 Kabul Tarihi/Accepted Date 14.03.2024 Yayın Tarihi/Publication Date 26.09.2024

Sorumlu Yazar/Corresponding author:Bilal KAYA

E-mail: bilal00790@gmail.com Cite this article: Kaya, B. (2024). Internet addiction and social appearance anxiety: A meta-analysis. *Educational Academic Research*, 54, 144-153.



Content of this journal is licensed under a Creative Commons Attribution-Noncommercial 4.0 International License.

Internet Addiction and Social Appearance Anxiety: A Meta-Analysis

İnternet Bağımlılığı ve Sosyal Görünüş Kaygısı: Bir Meta-Analiz Çalışması

ABSTRACT

The purpose of the present study is to analyze average effect size of the relationship between internet addiction and social appearance anxiety utilising the meta-analysis method. The study included 23 studies published between 2016 and 2022, and the study sample was composed of Turkish participants. The number of participants was 8957. Analysis results showed that the heterogeneity was significant and high. The general effect size was found to be significant in the relationship between internet addiction and social appearance anxiety, it had a medium effect size. However, moderating roles of the year of publication and education level were not found to be significant. Funnel plot analysis was performed to determine publication bias. Egger's regression test was also performed, which was not significant at a 95% confidence interval. No significant difference was found between observed in Duval and Tweedie's trim and fill test and corrected effect size. All these analyses indicate that there is no publication bias. The findings of the present study are discussed on basis of the relevant literature.

Keywords: Internet addiction, social appearance anxiety, meta-analysis, Turkish sample

ÖZ

Bu araştırmanın amacı internet bağımlılığı ile bireyin sosyal görünüş kaygısıyla ilişkisinin ortalama etki büyüklüğünü meta-analiz yöntemiyle incelenmesidir. Bu çalışma 2016 ile 2022 yılları arasında yayınlanan 23 çalışmayı içermektedir. Çalışma Türkiye örnekleminden seçilmiştir. Katılımcıların sayısı 8957'dir. Yapılan analiz sonucunda heterojenlik anlamlı ve yüksek düzeyde olduğu bulunmuştur. Ayrıca internet bağımlılığı ile sosyal görünüş kaygısı arasındaki ilişkide genel etki büyüklüğü anlamlı ve orta etki büyüklüğüne sahip olduğu bulunmuştur. Bunun yanında yayın yılı ve eğitim kademesinin moderatör rollerinin anlamlı olmadığı bulunmuştur. Yayın yanlılığı belirlemek için huni grafiği analizi yapılmıştır. Huni grafiği analizi yanı sıra Egger's regression testinin %95 güven aralığında anlamlı olmadığı bulunmuştur. Duval ve Tweedie'nın kırpma ve doldurma testinde gözlenen ve düzeltilmiş etki büyüklüğü arasında anlamlı bir farklılık olmadığı bulunmuştur. Tüm bu analizler çerçevesinde yayım yanlılığı olmadığı söylenebilir. Elde edilen bulgular alanyazın kapsamında tartışılmıştır.

Anahtar Kelimeler: İnternet bağımlılığı, sosyal görünüş kaygısı, meta-analiz, Türkiye örneklemi

Introduction

The utilization of the internet has been increasing worldwide day by day. Today, more than 5 billion people in the world utilise the internet (Internet World Stats, 2021). As for Turkey, 82.6% of the population uses the internet actively (Turkish Statistical Institute, 2021). The intensive utilization of the internet at the national and international levels provides many opportunities. However, despite these opportunities, it creates many problem areas, one of which is internet addiction (Kuss & Griffiths, 2020). Some of the symptoms of this addiction include preoccupation (excessive use of the internet), withdrawal (physical and psychological withdrawal), tolerance (a stepwise rise in the utilisation of the Internet), changes in psychology (sudden mood changes), recurrence (recurrent internet addiction), and conflicts (increase in inner and interpersonal conflicts) (Wölfling et al., 2010). When these symptoms of internet addiction are taken into consideration, it is considered to be associated with several problem areas. Hence, the related literature reports negative relationships between overuse of the internet and academic performance (Akhter, 2013), selfrespect (Bahrainian et al., 2014), self-control (Agbaria, 2021), well-being (Zajac et al., 2017), and social acceptance (Askarizadeh, Amiri & Karamoozian, 2015). Besides, it was reported to be positively and significantly correlated with loneliness (Ümmet & Ekşi, 2016), depression (Guo et al., 2012), impulsion (Şimşek et al., 2019), and social anxiety (Weinstein et al., 2016). In addition to these problem areas, the literature reports that internet addiction is linked with social appearance anxiety, which is another variable of study (Ceylan, 2012; Traş et al., 2019). Social appearance anxiety is described as an individual's anxiety about the adverse evaluation of his/her physical appearance by others (Hart et al., 2008). This type of worry includes many physical features such as the individual's facial shape, weight, way of smiling, height etc., social appearance anxiety highlights the importance that individuals attach to the evaluation of themselves in the eyes of other people. Hence, Leary's Selfpresentation Theory indicates an individual's anxiety to be caused by other people's negative perceptions about themselves. According to this theory, individuals frequently check their impressions of others and attach serious importance to this impression. Their anxiety level increases when they think that this impression is inadequate, which could also be associated with several problem areas. The literature reports a negative association between social appearance anxiety and self-confidence (Antonietti et al., 2013; Boursier et al., 2020), well-being (Seki & Dilmaç, 2015), quality of life (Duru & Örsal, 2021), coping with stress (Bakalım, 2016), and life satisfaction (Erçevik, 2021). On the other hand, it is positively associated with eating disorders (Levinson et al., 2013), fear of being evaluated negatively (Doğan, 2018), body shyness (Boursier & Gioia, 2020), and internet addiction (Ozturk, 2021; Şensoy & Dijle, 2021; Yıldırım & Taştan, 2020).

The internet enables individuals to share their images on social media constantly (Kuss & Griffiths, 2020). However, during this self-presentation, individuals' anxiety increases due to many reasons, such as wanting to make the images that are shared unrealistic and close to perfect (McComb & Mills, 2021) and comparing Themselves with famous people and models (Verduyn et al., 2020), etc. In this regard, in their model developed to explain internet addiction, Tam and Walter (2013) highlight the importance of the relationship between an individual's strong desire for selfreflection and internet addiction. Besides, in the Cognitive Behaviorist Model, Davis (2001) explains internet addiction and highly emphasizes link between internet addiction and anxiety. In addition, social comparison theory explains the relation between internet addiction and social appearance anxiety. According to this theory, individuals determine their body perceptions by comparing with other people (Festinger, 1954). In the last few decades, the abuse of the internet has led to social comparison in social media. Accordingly, over-sharing on the internet about the necessity of imperfect body perception triggers social appearance anxiety (Yang et al., 2018). Therefore, there may be a positive association between internet addiction and social appearance anxiety.

The Present Study

Though there are studies indicating the positive link between internet addiction and social appearance anxiety in Turkey (Ak, 2020; Ayar et al., 2018; Koca, 2020), no studies were found to have investigated and synthesized these studies as a whole. The current study will fil this knowledge gap in existing literature. Accordingly, the objective of the present study is to synthesise the studies on link between overuse of the internet and social appearance anxiety in the sample. This meta-analysis is thus believed to contribute to literature. This study could also initiate the formation of intervention programs as it presents the results obtained by calculating the average effect size of the association between two variables. The results of the the present study which integrates studies conducted in Turkey, could contribute to the increase in individuals' awareness levels by determining the link internet addiction and social appearance anxiety, an inverse factor caused by excessive internet use. In light of the significance of the issue, the objective of this study is to determine average effect size of the link between internet addiction and social appearance anxiety through the meta-analysis method.

Methods

This study utilized the meta-analysis method. Meta-analyses are utilized to compute the effect size of the studies (Card, 2012).

Literature Review

Google Academic, Web of Science, ERIC, EBSCO, ULAKBİM, ProQuest, PubMed, and the National Thesis Center were reviewed to access studies conducted in Turkey on this issue. Reviews were conducted between January and April 2022. The study was completed in May 2022. When the reviews were performed in these databases, the phrases "internet use disorder", "excessive internet use", "internet addiction", "problematic internet use", "social appearance anxiety", and "social physical anxiety" were reviewed in Turkish and English separately and in a way to investigate their relationship with each other.

Study Selection Criteria

The studies to be involved in the analysis were selected using the following factors as criteria: (1) utilizing a crosssectional study that investigates link between internet addiction (IA) and social appearance anxiety (SAA), (2) presenting the sample in the article, (3) selecting the study group from Turkey, (4) being published as an article or thesis, and (5) including high school or university-level students in the sample. These criteria were also determined for inclusion and exclusion. The studies were analyzed within the framework of these criteria, which indicated 23 studies to be included in the study (Table 1.) This study utilized PRISMA (Moher et al., 2009) criteria, which provides principles for the process of performing and reporting the meta-analysis. Figure 1 demonstrates the flowchart of the review and identification of studies to be involved in the study.

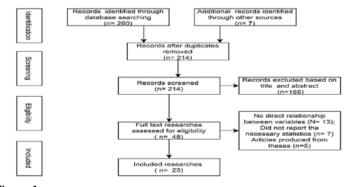


Figure 1.Flowchart of the Study Selection Process in the Meta-Analysis of IA and SAA

Statistical Analyses

This study utilized the Pearson correlation coefficient (r) to determine the effect size. However, since the r-value was problematic in terms of normal distribution between ±.25 and ± 1, r value was transformed to Fisher's z value as recommended by Cooper (2010). The effect value was calculated in this way. It was converted to the r-value again in the reporting phase. Average effect size is accepted as low if r= .1, moderate if r= .3, and strong if r= .5 (Cohen, 1988). A fixed or random-effects model is utilized to combine the effect size of the studies in meta-analysis, and the general effect size is calculated in this way. If the studies are heterogeneous, the random-effects model is chosen (Borenstein et al., 2013). Heterogeneity was determined utilizing Q and I² statistics. Q value is expected to be significant (p < .05). On the other hand, the I^2 value is accepted as a sign of low heterogeneity if it is up to 25%, medium if it is up to < 50%, and high if it is 75% and over (Card, 2012). Following the determination of heterogeneity, a meta-regression analysis was performed to determine what had a moderating effect on the association between IA and SAA. Hence, education level and publication year models were included in the analysis. Besides, funnel plots, Egger's regression, Duval and Tweedie's trim and fill tests were performed to evaluate publication bias of the studies. In the absence of the publication bias, the funnel plot should distribute symmetrically around the general effect size of the studies. Besides, Egger's regression test should not be significant (Borenstein et al., 2013), and the difference abetween the observed and corrected effect sizes in the Duval and Tweedie's trim and fill test should not be significant (Duval & Tweedie, 2000). In this study, ethical permission was not obtained since no procedure was performed on the participants. CMA 3.0 was utilized for the analysis.

Results

Homogeneity Tests and Pooled Analyses

As it is demonstrated in Table 2, heterogeneity was significant (Q = 523.41, p < .01) and high (I² = 95.80). On the other hand, according to random-effects model, general effect size was significant and had a medium effect size in the link between internet addiction and social appearance anxiety (r= .42; 95% CI: .34, .50). Meta-regression was performed for the variables that are considered to play a moderating role in this effect size. As Table 2 and Table 3 demonstrate, the education level (p > .05) and the publication year (p > .05) did not have significant moderating roles on the internet addiction and social appearance anxiety general effect size.

Table 2. *Random Model of the Correlation Between IA and SAA*

N	Effect size (r)	95% CI for r	Homogeneity test			Test of null (two	Test of null (two tailed)		
			Q (r)	p	l ²	Z-value	p		
23	.42	[.34, .50]	523.41	.00	95.80	8.69*	.00		

^{*}p < .01

Table 3. *Meta-regression According Models*

Covariate	Coefficient	Standard Error	95% CI	Z-value	p-value (two tailed)	Q	df	р
Model (EL)								
Intercept	.33	.26	[18, .84]	1.28	.20	1.29	3	.73
High School	.09	.27	[45, .63]	.33	.74			
Mixed	.23	.28	[32, .79]	.82	.41			
University	.10	.27	[44, .64]	.37	.71			
Model (Publication	on Year)							
Intercept	.33	.26	[18, .84]	1.26	.21	0.65	3	.88
2016-2018	.07	.29	[49, .62]	.23	.82			
2019-2020	.15	.28	[40, .69]	.52	.60			
2021-2022	.15	.28	[40, .71]	.55	.58			

EL; Education level.

Publication Bias

The funnel plot in Figure 2 was analyzed to determine publication bias, and it was found to distribute symmetrically relatively around the general effect size. On the other hand, Table 4 Egger's regression test was not significant at a 95% confidence interval (p > .05). As demonstrated in Table 4, no significant difference was found between the .42 [.34, .50] observed in Duval and Tweedie's trim and fill test and the corrected .42[.34, .50] effect size. All these analyses indicate the absence of the publication bias.

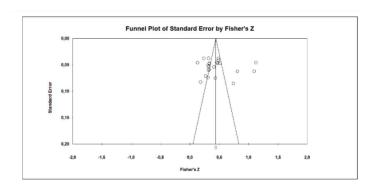


Figure 2.Funnel Plot the Analysis with All Samples

Table 4. *Egger's Regression Intercept Test, Duval and Tweedie's Trim and Fill Test*

Intercept	Standard Error	95% CI	t	df	<i>p</i> -value (two tailed)
2.39	4.59	[-7.16, 11.95]	.52	21	.61
Random Effect Model	Trimmed Studies	Effect size (r)	95% CI	Q	
Observed Effect	0	.42	[.34, .50]	523.35	
Corrected Effect		.42	[.34, .50]	523.35	

Discussion

The results of the present study demonstrate that the association between internet addiction and social appearance anxiety was significant, it had a medium effect

size. Individuals have the opportunity to post their photos instantly on the internet. Transformation of this opportunity into an appearance comparison could be an anxiety factor for individuals (Yurtseven, 2019). Hence, according to the Social Comparison Theory, when individuals do their self-

assessment, they take others as a reference, and believing that this assessment is negative could cause the individual to experience anxiety (Krayer et al., 2008). In this regard, a study grounded in Social Comparison Theory found that things shared on the internet were negatively associated with body image (Lawallen & Behm-Morawitz, 2016). When they share things on the internet, individuals ponder their brains intensively about how their appearance is seen by others. They experience social appearance anxiety if they think their appearance can be assessed negatively by others (Aslan & Tolan, 2022). According to the Self-presentation Theory, individuals give importance to how they are evaluated by others when they reflect their characteristics. Beliefs in the negative evaluations of others could be a severe anxiety factor for individuals (Leary, 2001). In this regard, a study based on the Self-presentation Theory reported positive link between internet use disorder and body dissatisfaction (Melioli et al., 2005). Besides these theories, Davis's (2001) Cognitive Behaviorist Model, one of the internet addiction models, focuses on the association between internet addiction and individuals' anxiety. Social appearance anxiety is one of them. Hence, the literature includes studies on the link between internet addiction and social appearance anxiety. Studies in the literature indicate a positive link between internet addiction and social appearance anxiety (Boursier et al., 2020; Rodgers et al., 2013). Although there are no similar meta-analyses, some meta-analysis supports the findings of this study. Accordingly, Saiphoo and Vahedi (2019) found that social media use increased body image disturbance in metaanalysis, consistent with the results of this study. Similarly, Holland and Tiggemann (2016) carried out a systematic review and reported that overuse of the internet negatively affects body perception. In addition, the meta-analytic review emphasised that social networking sites adversely influence ideal body perception (Mingoia et al., 2017). Consequently, it can be concluded that individuals' excessive engagement on the internet at an addiction level is associated with the excessive importance given to how they are seen by others, which could be related to their social appearance anxiety.

The present study also found the moderating roles of the publication year and education level were not significant in the relationship between internet addiction and social appearance anxiety. The link between internet addiction and social appearance anxiety has been investigated in recent years in the literature. Accordingly, the study carried out by Rodgers et al. (2013) can be considered an early publication. As for Turkey, these kinds of studies seem to have been conducted after the year 2016 (Doğan, 2016;

Gilik, 2016), with studies conducted more intensively in 2019 (Erdoğan, 2019; Traş, 2019), 2020 (Ak, 2020; Yıldırım, 2020) and 2021 (Ceylan, 2021; Fidan, 2021). As a result, the nonsignificant moderating role of the publication year could be associated with the short periods of the publication vears. The moderating role of education level was not significant, either. Studies that examined the link between internet addiction and social appearance anxiety in Turkey were found to select high school students (Fidan, 2021; Kocaman, 2021), university students (Ceylan, 2021; Kireççi, 2019) or both of these groups as samples (Erdoğan, 2019; Işık, 2019). The years in these education levels also encompass transition years between adolescence and emerging adulthood periods (Arnett, 1994). Hence, years encompassing this education level include a period when individuals experience an increase in internet addiction (Kuss & Griffiths, 2020) and intensive social appearance anxiety (Boursier et al., 2020). As a result, high school and university years are transition periods from adolescence to emerging adulthood, and individuals in this period do not differ significantly in terms of internet addiction and social appearance anxiety, indicating why the moderating role of education level was not significant in this study. This study found a positive and significant effect with a medium effect size in the link between internet addiction and social appearance anxiety. On the other hand, the moderating roles of publication year and education level were not significant.

Suggestions for Future Research and Limitations

Considering the results of this study, intervention programs can be formed for internet addiction, and individuals who develop internet addiction can be provided with psychological support services to decrease their social appearance anxiety, which is associated with this addiction. In addition, this study includes samples from high schools and universities, but psycho-social preventive support programs can be designed in a way to include internet addiction and social appearance anxiety as well as the relationship between these two variables in lower education levels as well.

This study included a Turkish sample, so future metaanalysis studies could include other cultures and countries using the same topic. Besides, a meta-analysis can be conducted to determine the link between these two variables in different age groups. The current study examined internet addiction and social appearance anxiety only in the sample of Turkey. In future studies, a similar meta-analysis involving the overall literature can be conducted. This study included internet addiction, which is a type of behavioural addiction. In future studies, relationships between other behavioural addictions such as online shopping addiction and social appearance anxiety can be explored. Future studies may contribute to the understanding of the association mechanism between internet addiction and social appearance anxiety. Accordingly, the mediating and moderating roles of irrational beliefs, peer support, family cohesion, social comparison, perfectionism in the association between internet addiction and social appearance anxiety can be investigated. Apart from social appearance anxiety, other meta-analysis studies could investigate the relationship between internet addiction and body image, ideal body stereotype, body shyness, body dissatisfaction, body avoidance, etc. In addition to these, this study explained the common effect of the studies that investigated the link between internet addiction and social appearance anxiety. However, it is not possible to interpret which one is the cause and which one is the effect. Experimental studies can

be conducted considering this factor. Additionally, the issue of the link between internet addiction and social appearance anxiety continues to remain topical. Accordingly, similar meta-analyses can be conducted in future studies as the number of studies addressing these two variables increases.

This study has some limitations. Firstly, it included only cross-sectional studies and analyzed the relationship between internet addiction and social appearance anxiety. Since it analyzed the relationship itself, it was not possible to comment on a cause-and-effect relationship, which is another limitation of the study. Including only the Turkish sample and only high school and university levels rather than other education levels are also considered limitations. Besides, this study investigated only the moderating role of education level and publication year in the effect size of association between internet addiction and social appearance anxiety. The lack of any other moderating roles can be considered a limitation.

Table 1.Characteristics of the Studies Included in the Meta-analysis

Study Name	r	N	Female	Male	Education Level	Journal	Publication Year
Ceylan, 2021	.45	581	212	369	University	Dissertation	2021-2022
Erdogan, 2019	.8	260	149	111	Mixed	Dissertation	2019-2020
Kocaman et al., 2021	.31	712	306	406	High Scool	Article	2021-2022
Kireççi, 2019	.3	383	230	153	University	Dissertation	2019-2020
Fidan, 2021	.81	481	220	221	High Scool	Dissertation	2021-2022
Dogan etal., 2016	.13	475	306	169	High Scool	Article	2016-2018
Çakmak,2018	.63	140	76	64	University	Dissertation	2016-2018
Karakas-Kaya, 2021	.32	294	189	109	Mixed	Dissertation	2021-2022
Tras et al., 2019	.43	484	332	152	University	Article	2019-2020
Öztürk, 2021	.31	356	215	141	High Scool	Article	2021-2022
Ayar et al., 2018	.47	450	223	227	University	Article	2016-2018
Isık, 2019	.67	260	140	120	Mixed	Dissertation	2019-2020
Yildirim et al., 2020	.44	453	229	224	University	Article	2019-2020
Gilik, 2016	.31	280	140	140	High Scool	Dissertation	2016-2018
Korkmaz, 2017	.26	200	105	95	Mixed	Dissertation	2016-2018
Ak, 2020	.18	149	111	38	University	Dissertation	2019-2020
Sensoy et al., 2021	.45	700	302	398	High Scool	Article	2021-2022
Aslan et al., 2022	.32	440	279	161	University	Article	2021-2022
Koca, 2020	.23	700	302	398	High Scool	Dissertation	2019-2020
Yurtseven, 2019	.39	343	108	235	University	Dissertation	2019-2020
Dikmen, 2019	.3	186	145	41	Mixed	Dissertation	2019-2020
Atas, 2018	.41	180	107	73	High Scool	Dissertation	2016-2018
Sakar, 2021	.32	450	186	264	Mixed	Dissertation	2016-2018

Etik Komite Onayı: Meta-analiz çalışması olduğu için etik kurul izni alınmamıştır.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir-BK; Tasarım-BK; Denetleme-BK; Kaynaklar-BK; Veri Toplanması ve/veya İşlemesi-BK; Analiz ve/ veya Yorum-BK; Literatür Taraması-BK; Yazıyı Yazan-BK; Eleştirel İnceleme-BK.

Çıkar Çatışması: Yazarlar, çıkar çatışması olmadığını beyan etmiştir. Finansal Destek: Yazarlar, bu çalışma için finansal destek almadığını beyan etmiştir.

Ethics Committee Approval: Ethics committee permission was not obtained as it was a meta-analysis.

Informed Consent: Informed consent was not obtained as this was a meta-analysis.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept -BK; Design-BK; Supervision-BK; Resources-BK; Data Collection and/or Processing-BK; Analysis and/or Interpretation-BK; Literature Search-BK; Writing Manuscript-BK; Critical Review-BK; Other-BK.

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

References

- *The references of the studies included in the meta-analysis have been markes.
- Agbaria, Q. (2021). Internet addiction and aggression: The mediating roles of self-control and positive affect. *International Journal of Mental Health and Addiction*, 19(4), 1227-1242. https://doi.org/10.1007/s11469-019-00220-z.
- Akhter, N. (2013). Relationship between internet addiction and academic performance among university undergraduates. *Educational Research and Reviews, 8*(19), 1793-1796. https://doi.org/10.5897/ERR2013.1539.
- * Ak, T. (2020). Üniversite öğrencilerinde sosyal görünüş kaygısı, problemli internet kullanımı, yalnızlık ve çocukluk çağı travmaları arasındaki ilişkinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Üsküdar Üniversitesi]. YÖK.
- Antonietti, C., Camerini, A. L., & Marciano, L. (2020). The impact of self-esteem, family and peer cohesion on social appearance anxiety in adolescence: Examination of the mediating role of coping. *International Journal of Adolescence and Youth*, 25(1), 1089-1102. https://doi.org/10.1080/02673843.2020.1858888.
- Arnett, J.J. (1994). Are college students adults? Their conceptions of the transition to adulthood. *Journal of Adult Development*, 1,154-168. https://doi.org/10.1002/cd.75.
- Askarizadeh, G., Amiri, A., & Karamoozian, M. (2015). The relationship between personality traits and social acceptance level and internet addiction. *Journal of Novel Applied Sciences*, 4(11), 1129-32.
- * Aslan, H. R., & Tolan, Ö. Ç. (2022). Social appearance anxiety, automatic thoughts, psychological well-being and social media addiction in university students. *International Education Studies*, 15(1), 47-62. https://doi.org/10.5539/ies.v15n1p47.

- * Ayar, D., Gerçeker, G. Ö., Özdemir, E. Z., & Bektas, M. (2018). The effect of problematic internet use, social appearance anxiety, and social media use on nursing students nomophobia levels. *Computers, Informatics, Nursing, 36*(12), 589-595. https://doi.org/10.1097/cin.00000000000000458.
- * Ataş, M.B. (2018). Ergenlerde akıllı telefon bağımlılığı ve sosyal görünüş kaygısı arasındaki ilişkinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Üsküdar Üniversitesi]. YÖK.
- Bahrainian, S. A., Alizadeh, K. H., Raeisoon, M. R., Gorji, O. H., & Khazaee, A. (2014). Relationship of Internet addiction with self-esteem and depression in university students. *Journal of Preventive Medicine and Hygiene*, *55*(3), 86-89.
- Bakalim, O. (2016). Self-confident approach in coping with stress and social appearance anxiety of Turkish university students: The mediating role of body appreciation. *International Journal of Higher Education*, *5*(4), 134-143. https://doi.org/10.5430/ijhe.v5n4p134.
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2013). *Introduction to meta-analysis*. John Wiley & Sons.
- Boursier, V., & Gioia, F. (2020). Women's pathological narcissism and its relationship with social appearance anxiety: The mediating role of body shame. *Clinical Neuropsychiatry: Journal of Treatment Evaluation*, *17*(3), 164-174. https://doi.org/10.36131/cnfioritieditore20200304.
- Boursier, V., Gioia, F., & Griffiths, M. D. (2020). Do selfie-expectancies and social appearance anxiety predict adolescents' problematic social media use?. *Computers in Human Behavior*, 110, 106395. https://doi.org/10.1016/j.chb.2020.106395
- Card, N. A. (2012). *Applied meta-analysis for social science research*. Guilford Press.
- * Ceylan, N. (2021). Üniversite öğrencilerinde sosyal medya kullanımının sosyal görünüş kaygısı ve benlik saygısı ile ilişkisi incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, İstanbul Arel Üniversitesi]. YÖK.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. Erlbaum.
- Cooper, H. (2010). Research synthesis and meta-analysis. Sage.
- * Çakmak, E. (2018). Üniversite öğrencilerinin sosyal medya kullanım düzeyleri ile sosyal görünüş kaygısı arasındaki ilişkinin farklı değişkenler açısından değerlendirilmesi [Yayınlanmamış Yüksek Lisans Tezi, Beykent Üniversitesi]. YÖK.
- Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior, 17*(2), 187-195. https://doi.org/10.1016/S0747-5632(00)00041-8.
- * Dikmen, O. (2019). Genç erişkinlerde internet bağımlılığı düzeyleri ile sosyal görünüş kaygısı ve yalnızlık düzeyleri arasındaki ilişkinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Üsküdar Üniversitesi]. YÖK
- Doğan, P. K. (2018). Examining the relation between the fear of negative evaluation and the anxiety for social appearance in folk dancers. *Journal of Education and Training Studies*, 6(3), 59-65. https://doi.org/10.11114/jets.v6i3.2916.

- *Dogan, U., & Çolak, T. S. (2016). Self-concealment, social network sites usage, social appearance anxiety, loneliness of high school students: a model testing. *Journal of Education and Training Studies*, 4(6), 176-183. http://dx.doi.org/10.11114/jets.v4i6.1420.
- Duru, P., & Örsal, Ö. (2021). The effect of acne on quality of life, social appearance anxiety, and use of conventional, complementary, and alternative treatments. *Complementary Therapies in Medicine*, *56*, 102614. https://doi.org/10.1016/j.ctim.2020.102614.
- Duval, S., & Tweedie, R. (2000). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, *56*(2), 455-63.
- * Erdoğan, B. (2019). Klinik olmayan örneklemde sosyal medya bağımlılığının sosyal görünüş kaygısı ve iletişim becerileri ile arasındaki ilişkinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Üsküdar Üniversitesi]. YÖK.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117–140. https://doi.org/10.1177/001872675400700202.
- * Fidan, Z. (2021). Lise öğrencilerinde sosyal medya bağımlılığı ile kişilik özellikleri ve sosyal görünüş kaygısı arasındaki ilişkinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, İstanbul Sabahattin Zaim Üniversitesi]. YÖK.
- * Giliki M. (2016). Ergenlerde internet bağımlılığının sosyal görünüş kaygısı ve çeşitli değişkenlerle ilişkisinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Nişantaşı Üniversitesi]. YÖK.
- Guo, J., Chen, L., Wang, X., Liu, Y., Chui, C. H. K., He, H., ... & Tian, D. (2012). The relationship between Internet addiction and depression among migrant children and left-behind children in China. *Cyberpsychology, Behavior, and Social Networking*, 15(11), 585-590. https://doi.org/10.1089/cyber.2012.0261.
- Hart, T. A., Flora, D. B., Palyo, S. A., Fresco, D. M., Holle, C., & Heimberg, R. G. (2008). Development and examination of the social appearance anxiety scale. *Assessment*, *15*(1), 48-59. https://doi.org/10.1177/1073191107306673.
- Internet World Stats. (2014). Retrived from. http://www.internetworldstats.com. Accessed on 21 March 2022.
- * Işık, M. (2019). Erişkinlerin sosyal medya kullanım özelliklerinin sosyal görünüş kaygısı ve yeme tutumlarına etkisi [Yayınlanmamış Yüksek Lisans Tezi, Üsküdar Üniversitesi]. YÖK.
- * Karakaş-Kaya, G. (2021). 18-30 yaş arasındaki bireylerde beden imajının sosyal medya kullanımı, sosyal görünüş kaygısı ve yeme tutumuna etkisinin çeşitli değişkenler açısından incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Ufuk Üniversitesi]. YÖK.
- * Kireççi, C. (2019). Üniversite öğrencilerinde sosyal medya kullanımının dikkat eksikliği ve hiperaktivite bozukluğu belirtileri, sosyal görünüş kaygısı ve akademik erteleme ile ilişkisinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Beykent Üniversitesi]. YÖK.

- * Koca, Ö. (2020). Adölesanların problemli internet kullanımı ve sosyal görünüş kaygısının akıllı telefon bağımlılığına etkisi [Yayınlanmamış Yüksek Lisans Tezi, Dokuz Eylül Üniversitesi]. YÖK.
- *Kocaman, G., & Kazan, H. (2021). Investigation of the relationship between high school students instagram addiction and social appearance anxiety. *OPUS*, *18*(40), 2638-2664. https://doi.org/10.26466/opus.877656.
- * Korkmaz, H. (2017). 16-24 yaş arası öğrencilerin yoğun ve bağımlı internet kullanımı ile sosyal görünüş kaygıları arasındaki ilişki [Yayınlanmamış Yüksek Lisans Tezi, Üsküdar Üniversitesi]. YÖK.
- Krayer, A., Ingledew, D. K., & Iphofen, R. (2008). Social comparison and body image in adolescence: A grounded theory approach. *Health Education Research*, *23*(5), 892-903. https://doi.org/10.1093/her/cym076.
- Kuss, D. J., & Griffiths, M. D. (2020). *Internet addiction in psychotherapy*. Palgrave Pivot.
- Leary, M. R. (2001). Social anxiety as an early warning system: a refinement and extension of the self-presentational theory of social *anxiety*. Allyn & Bacon.
- Levinson, C. A., Rodebaugh, T. L., White, E. K., Menatti, A. R., Weeks, J. W., Iacovino, J. M., & Warren, C. S. (2013). Social appearance anxiety, perfectionism, and fear of negative evaluation. Distinct or shared risk factors for social anxiety and eating disorders?. *Appetite*, *67*, 125-133. https://doi.org/10.1016/j.appet.2013.04.002.
- Lewallen, J., & Behm-Morawitz, E. (2016). Pinterest or thinterest?

 Social comparison and body image on social media. *Social Media+ Society*, *2*(1), 2056305116640559.v. https://doi.org/10.1177/2056305116640559.
- McComb, S. E., & Mills, J. S. (2021). Young women's body image following upwards comparison to Instagram models: The role of physical appearance perfectionism and cognitive emotion regulation. *Body image*, *38*, 49-62. https://doi.org/10.1016/j.bodyim.2021.03.012.
- Melioli, T., Rodgers, R. F., Rodrigues, M., & Chabrol, H. (2015). The role of body image in the relationship between Internet use and bulimic symptoms: Three theoretical frameworks. *Cyberpsychology, Behavior, and Social Networking,* 18(11), 682-686. https://doi.org/10.1089/cyber.2015.0154
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), e1000097.
- *Öztürk, L., Sarıdoğan- Öztürk, S.S., Sarpkaya, S., & Yabacı, A. (2021). An investigation of the relationship between high school students social media use level and social appearance anxiety in terms of different variables. *Atlas Journal*, 39, 1622-1634.
- Rodgers, R. F., Melioli, T., Laconi, S., Bui, E., & Chabrol, H. (2013).

 Internet addiction symptoms, disordered eating, and body image avoidance. *Cyberpsychology Behavior and Social Networking*, 16(1), 56-60. https://doi.org/10.1089/cyber.2012.1570.

- Seki, T., & Dilmaç, B. (2015). Predictor relationships between the values the adolescents have and their levels of subjective well-being and social appearance anxiety: A model proposal. *Egitim ve Bilim*, 40(179). https://doi.org/10.15390/eb.2015.3663.
- * Şakar, Ş. Ş. (2021). *Çevrimiçi oyun bağımlılığı düzeyinin sosyal fobi ve sosyal görünüş kaygısıyla ilişkisi* [Yayınlanmamış Yüksek Lisans Tezi, İstanbul Gelişim Üniversitesi]. YÖK.
- *Şensoy, Ö., & Ayar, D. (2021). The effect of problematic internet use and social appearance anxiety on the smartphone addiction of adolescents. *Internet Addiction and Smartphone Addiction, 7(3), 354-359*. https://doi.org/10.4274/cjms.2021.2021-89.
- Şimşek, N., Zincir, H., Özen, B., & Ceyhan, Ö. (2019). The association between Internet Addiction and Impulsivity among Academicians. *Addicta: The Turkish Journal on Addictions*, 6(2), 269-281. https://doi.org/10.15805/addicta.2019.6.2.0012.
- Tam, P., & Walter, G. (2013). Problematic internet use in childhood and youth: evolution of a 21st century affliction. *Australasian Psychiatry*, 21(6), 533-536. https://doi.org/10.1177/1039856213509911.
- *Tras, Z., Öztemel, K., & Baltaci, U. B. (2019). Role of problematic internet use, sense of belonging and social appearance anxiety in facebook use intensity of university students. *International Education Studies*, 12(8), 1-10. https://doi.org/10.5539/ies.v12n8p1.
- Turksih Statistical Institute. (2021). Retrived from. https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2021-37437. Accesed on 02 March 2022.

- Ümmet, D., & Ekşi, F. (2016). Internet addiction in young adults in Turkey: Loneliness and virtual-environment loneliness. *Addicta: The Turkish Journal on Addictions*, *3*(1), 40-53.
- Weinstein, A., Dorani, D., Elhadif, R., Bukovza, Y., Yarmulnik, A., & Dannon, P. (2015). Internet addiction is associated with social anxiety in young adults. *Annals of Clinical Psychiatry*, *27*(1), 4-9.
- Wölfling, K., Müller, K., & Beutel, M. (2010). *Diagnostic measures:*Scale for the assessment of internet and computer game addiction. Pabst Science.
- Yang, C. C., Holden, S. M., & Carter, M. D. K. (2018). Social media social comparison of ability (but not opinion) predicts lower identity clarity: Identity processing style as a mediator. *Journal of Youth and Adolescence, 47*(10), 2114–2128. https://doi.org/10.1007/s10964-017-0801-6
- *Yıldırım, E., & Taştan, N. (2020). The predictive role of narcissistic personality tendencies and social appearance anxiety on problematic internet use among university students. Kırıkkale University Journal of Social Sciences, 10(1), 79-100.
- * Yurtseven, Y.E. (2019). Üniversite öğrencilerinin internet bağımlılığı sosyal görünüş kaygısı ve öznel mutluluk ilişkisinin incelenmesi [Yayınlanmamış Yüksek Lisans Tezi, Muğla Sıtkı Koçman Üniversitesi]. YÖK.
- Zajac, K., Ginley, M. K., Chang, R., & Petry, N. M. (2017). Treatments for Internet gaming disorder and Internet addiction: A systematic review. *Psychology of Addictive Behaviors*, 31(8), 979. https://doi.org/10.1037/adb0000315.

Genişletilmiş Özet

Amaç

Bu araştırmanın amacı, Türkiye örnekleminde internet bağımlılığı ile sosyal görünüş kaygısı arasındaki ilişkinin ortalama etki büyüklüğünü meta-analiz yöntemiyle incelenmesidir.

Yöntem

Bu çalışmada meta-analiz yöntemi kullanılmıştır. Meta-analiz, çalışmaların etki büyüklüğünü hesaplamak için kullanılır (Card, 2012). Bu çalışmada etki büyüklüğünü belirlemek için Pearson korelasyon katsayısı (r) kullanılmıştır. Ancak r değeri ± ,25 ile ± 1 arasında normal dağılım açısından sorunlu olduğu için Cooper (2010) tarafından önerildiği gibi r değeri Fisher'in z değerine dönüştürülmüştür. Meta-analizde çalışmaların etki büyüklüklerini birleştirmek için sabit ya da rastgele etkiler modeli kullanılır ve genel etki büyüklüğü bu şekilde hesaplanır. Çalışmalar heterojen ise rastgele etkiler modeli seçilir (Borenstein ve ark., 2013). Heterojenlik Q ve I² istatistikleri kullanılarak belirlenmiştir. Q değerinin anlamlı olması beklenir (p < .05). I² değeri ise %25'e kadar ise düşük, <%50 ise orta, %75 ve üzerinde ise yüksek heterojenlik işareti olarak kabul edilmektedir (Card, 2012). Ayrıca, çalışmaların yayın yanlılığını değerlendirmek için huni grafikleri, Egger regresyonu, Duval ve Tweedie'nin kırpma ve doldurma testleri yapılmıştır. Yayın yanlılığının olmaması için huni grafiğinin çalışmaların genel etki büyüklüğü etrafında simetrik olarak dağılması gerekmektedir. Ayrıca, Egger'in regresyon testinin anlamlı olmaması (Borenstein ve ark., 2013) ve Duval ve Tweedie'nin kırpma ve doldurma testinde gözlenen ve düzeltilmiş etki büyüklükleri arasındaki farkın anlamlı olmaması gerekmektedir (Duval ve Tweedie, 2000).

Bulgular

Bu çalışmada heterojenlik anlamlı (Q = 523.41, p < .01) ve yüksektir ($I^2 = 95.80$). Öte yandan, rastgele etkiler modeline göre, internet bağımlılığı ve sosyal görünüm kaygısı arasındaki bağlantıda genel etki büyüklüğü anlamlı ve orta düzeyde bir etki büyüklüğüne sahiptir ($I^2 = .42$); %95 GA: .34, .50). Huni grafiği yayın yanlılığını belirlemek için analiz edilmiş ve genel etki büyüklüğü etrafında nispeten simetrik olarak dağıldığı görülmüştür. Öte yandan, Egger regresyon testi %95 güven aralığında anlamlı bulunmamıştır ($I^2 = .05$). Duval ve Tweedie'nin kırpma ve doldurma testinde gözlemlenen .42 [.34, .50] ile düzeltilmiş .42 [.34, .50] etki büyüklüğü arasında anlamlı bir fark bulunmamıştır. Tüm bu analizler yayın yanlılığının olmadığını göstermektedir.

Sonuç ve Öneriler

Bu çalışmanın sonucları, internet bağımlılığı ile sosyal görünüş kaygısı arasındaki ilişkinin anlamlı olduğunu ve orta düzeyde bir etki büyüklüğüne sahip olduğunu göstermektedir. Bireyler fotoğraflarını anlık olarak internette yayınlama imkânına sahiptir. Bu fırsatın bir görünüm karsılastırmasına dönüsmesi birevler için bir kaygı faktörü olabilir (Yurtseven, 2019). Nitekim Sosyal Karşılaştırma Teorisi'ne göre bireyler kendilerini değerlendirirken başkalarını referans alırlar ve bu değerlendirmenin olumsuz olduğuna inanmak bireyin kaygı yaşamasına neden olabilir (Krayer ve ark., 2008). Bu bağlamda, Sosyal Karşılaştırma Teorisi'ne dayandırılan bir çalışmada, internette paylaşılan şeylerin beden imajı ile negatif ilişkili olduğu bulunmuştur (Lawallen & Behm-Morawitz, 2016). Bireyler internette bir şeyler paylaştıklarında, dış görünüşlerinin başkaları tarafından nasıl görüldüğü konusunda yoğun bir şekilde kafa yorarlar. Görünüşlerinin başkaları tarafından olumsuz değerlendirilebileceğini düşünürlerse sosyal görünüş kaygısı yaşarlar (Aslan & Tolan, 2022). Benlik Sunumu Teorisi'ne göre bireyler, özelliklerini yansıtırken başkaları tarafından nasıl değerlendirildiklerine önem verirler. Başkalarının olumsuz değerlendirmelerine yönelik inançlar bireyler için ciddi bir kaygı faktörü olabilmektedir (Leary, 2001). Bu bağlamda, Benlik Sunumu Teorisi'ne dayanan bir çalışma, internet kullanım bozukluğu ile beden memnuniyetsizliği arasında pozitif bir bağlantı olduğunu bildirmiştir (Melioli ve ark., 2005). Bu kuramların yanı sıra, internet bağımlılığı modellerinden biri olan Davis'in (2001) Bilişsel Davranışçı Modeli, internet bağımlılığı ile bireylerin kaygıları arasındaki ilişkiye odaklanmaktadır. Sosyal görünüş kaygısı da bunlardan biridir. Bu nedenle literatürde internet bağımlılığı ve sosyal görünüş kaygısı arasındaki ilişkiyi inceleyen çalışmalar bulunmaktadır. Literatürdeki çalışmalar, internet bağımlılığı ile sosyal görünüş kaygısı arasında pozitif bir bağlantı olduğunu göstermektedir (Boursier ve ark., 2020; Rodgers ve ark., 2013;). Benzer meta-analizler bulunmamakla birlikte, bazı meta-analizler bu çalışmanın bulgularını desteklemektedir. Buna göre, Saiphoo ve Vahedi (2019) meta-analizde sosyal medya kullanımının beden imajı rahatsızlığını artırdığını bulmuşlardır ve bu çalışmanın sonuçlarıyla tutarlıdır. Benzer şekilde, Holland ve Tiggemann (2016) sistematik bir inceleme gerçekleştirmiş ve internetin aşırı kullanımının beden algısını olumsuz etkilediğini bildirmiştir.