EĞİTİM TEKNOLOJİSİ Kuram ve Uygulama
Cilt:13 Sayı:1 Yıl:2023

Makale Geçmişi / Article History
Alındı/Received: 30.03.2022
Düzeltme Alındı/Received in revised form: 21.11.2022
Kabul edildi/Accepted: 22.11.2022

THE RELATIONSHIP BETWEEN ACADEMIC SELF-CONTROL AND ONLINE VIGILANCE AMONG HIGH SCHOOL STUDENTS: A MULTI-GROUP ANALYSIS

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Abstract

Constant awareness of online communication and interaction is a state of online vigilance. There is very limited research on constructs with which online vigilance dimensions are likely to be associated. In this study, academic self-control, which is thought to be related to the theoretical basis of online vigilance is discussed. Self-control is a construct that helps people resist impulsive urges, manage competitive tasks, and maintain attention. In this context, this study aims to test whether online vigilance is associated with academic self-control. This study also examines the variation of this relationship depending on gender. The research group consists of 128 high school students. Personal information form and two different scales were used in the study. In this study, the research model was analyzed by Partial Least Squares-Structural Equation Modeling(PLS-SEM). The results of the study showed that there is a significant relationship between academic perseverance and salience, reactibility, and monitoring. The results highlighted that there is a significant relationship between academic attention and reactibility and salience. Academic attention did not have a significant effect on monitoring. The structural model shows that the variance in online vigilance behaviors explains between 16-31%. According to multi-group analyzes, there were significant relationships between academic perseverance and monitoring, salience for female and male sub-samples. While the relationship between academic perseverance and reactibility is significant in males, it is not significant in females. While the relationships between academic attention and all sub-dimensions of online vigilance are significant in women, they are not significant in men.

Keywords: online vigilance; academic self-control; high school students.

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Atıf için: Kıdıman, E., & Yıldız Durak, H. (2023), The Relationship Between Academic Self-Control and Online Vigilance Among High School Students: A Multi-Group Analysis. Eğitim Teknolojisi Kuram ve Uygulama. 13 (1), 24-36.

Legal Permissions: Ethics Committee: Bartın University Social and Human Sciences Ethics Committee, Date: 08.03.2022, Number: 2022-SBB-0080.

LİSE ÖĞRENCİLERİ ARASINDA AKADEMİK ÖZ-KONTROL VE ÇEVRİMİÇİ TETİKTE OLMA ARASINDAKİ İLİŞKİ: BİR ÇOKLU GRUP ANALİZİ

Öz

Çevrimiçi iletişim ve etkileşim konularına karşı sürekli bir farkındalık durumları çevrimiçi tetikte olma durumudur. Çevrimiçi tetikte olma durumu boyutlarının olası ilişkili olduğu yapılarla ilgili çok kısıtlı araştırma vardır. Bu çalışmada çevrimiçi tetikte olmanın kuramsal temeliyle ilişkili olduğu düşünülen akademik öz kontrol ele alınmıştır. Öz kontrol, insanların anlık isteklerine direnmesine, rekabetçi görevleri yönetmesine ve dikkati sürdürmesine yardımcı olan bir yapıdır. Bu bağlamda, bu çalışma, çevrimiçi tetikte olmanın, akademik öz-kontrol ile ilişkili olup olmadığını test etmeyi amaçlamıştır. Ayrıca bu ilişkinin cinsiyete bağlı değişimini incelemiştir. Bu araştırmanın araştırma grubunu 128 lise öğrencisi oluşturmaktadır. Çalışmada kişisel bilgi formu ve iki farklı ölçek kullanılmıştır. Bu çalışmada varsayılan araştırma modeli Kısmi En Küçük Kareler Yapısal Eşitlik Modellemesi (PLS-SEM) ile analiz edilmiştir. Araştırma sonuçları, akademik sebat ile belirginlik, tepkisellik ve takip arasında anlamlı bir ilişkiye sahip olduğunu göstermiştir. H2 hipotezi, akademik dikkat ile çevrimiçi tetikte olma davranışlarının ilişkili olduğunu varsaymaktadır. Sonuçlar, akademik dikkat ile tepkisellik ve belirginlik arasında anlamlı bir ilişkiye sahip olduğunu göstermiştir. Akademik dikkat, takip üzerinde ise anlamlı bir etkiye sahip değildir. Yapısal model, çevrimiçi tetikte olma davranışlarındaki varyansın %16-31 arasında açıkladığını göstermektedir. Çoklu grup analizlere göre, kadın ve erkek alt örneklemleri için akademik sebat ile takip ve belirginlik arasında ilişkilerin anlamlı olduğu bulunmuştur. Akademik sebat ile tepkisellik arasındaki ilişki erkeklerde anlamlı iken kadınlarda anlamlı değildir. Akademik dikkat ile çevrimiçi tetikte olmanın tüm alt boyutları arasındaki ilişkiler kadınlarda anlamlı iken erkeklerde anlamlı değildir.

Anahtar Kelimeler: çevrimiçi tetikte olma; akademik öz-kontrol; lise öğrencisi

Yasal İzinler: Etik Kurul: Bartın Üniversitesi Sosyal ve Beşeri Bilimler Etik Kurulu, Tarih: 08.03.2022, Sayı: 2022-SBB-0080.

Geniş Özet

Çevrimiçi iletişim ve etkileşim konularına karşı sürekli bir farkındalık durumları çevrimiçi tetikte olma olarak tanımlanmıştır (Vorderer et al., 2017). Kullanıcıların sürekli çevrimiçi bağlantıda yaşamalarının dikkat dağıtıcı etkileri, dikkat stratejileri ve sağlıklı yaşam üzerindeki potansiyel etkilerini araştırabilmek için Karakoyun (2021) tarafından Türk kültürüne uyarlanan çevrimiçi tetikte olma değerlendirme aracı bu araştırmada kullanılmıştır. Çevrimiçi tetikte olma, kullanıcıların çevrimiçi bağlantıya yönelik bilişsel yönelimlerinin üç boyutundaki farklılıkları ele alır: belirginlik, tepkisellik ve takip. Belirginlik boyutu katılımcıların çevrimiçi ortama yönelik bilişsel yönelimlerini ve insanların düşüncelerini çevrimiçi alanlarına ne ölçüde adadıklarını, tepkisellik boyutu, gelen çevrimiçi mesajlara anında yanıt vermeyi, takip boyutu ise çevrimiçi içerik ve mesajların rutin olarak takip edilmesini ve düzenli olarak çevrimiçi

alanlara girme eğilimini açıklamaktadır. Bununla birlikte, bu boyutların olası ilişkili olduğu yapılarla ilgili çok kısıtlı araştırma vardır. Bu çalışmada çevrimiçi tetikte olmanın kuramsal temeliyle ilişkili olduğu düşünülen akademik öz kontrol ele alınmıştır. Öte yandan, öz kontrol genellikle uzun vadeli bir hedefe ulaşmak için anlık arzuları bastırma veya geçersiz kılma kapasitesi olarak tanımlanabilir (Baumeister et al., 2007). Öz kontrol, insanların anlık isteklerine direnmesine, rekabetçi görevleri yönetmesine ve dikkati sürdürmesine yardımcı olan zihinsel işlevlere dair yapıyı açıklar (Inzlicht et al., 2014). Bu bağlamda daha fazla öz kontrole sahip bireylerin, duyguları ve davranışları üzerinde daha fazla denetime sahip olduğu söylenebilir. Bu nedenle, öz kontrol özellikle eğitim alanında başarı için önem arz eder. Öğrencilerin alternatif hedefler yerine akademik hedeflere yönelik motivasyonlarını ve davranışlarını nasıl düzenlediklerinin altında farklı öznel değerlendirmelerin olup olmadığı belirsizdir. Öz kontrol, engellemeye indirgenemeyen çok sayıda stratejiyi içerdiğinden (Duckworth & Gross, 2014), başarılı benlik yönetimine katkıda bulunabilecek yürütücü işlevin ötesindeki ilişkili faktörleri anlamak önemlidir. Bu bağlamda, mevcut çalışma, çevrimiçi tetikte olmanın, akademik öz-kontrol ile ilişkili olup olmadığını test etmeyi amaçlamıştır. Ayrıca bu ilişkinin cinsiyete bağlı değişimini incelemiştir.

Bu araştırmanın araştırma grubunu Türkiye'de 128 lise öğrencisi oluşturmaktadır. Katılımcı olan 128 lise öğrencinin %50.8'i kadın ve %49.2'si erkektir. Katılımcıların yaşlarının ortalaması 15.74'tür. Çalışmada kişisel bilgi formu ve iki farklı ölçek kullanılmıştır. Bu çalışmada varsayılan araştırma modeli Kısmi En Küçük Kareler Yapısal Eşitlik Modellemesi (PLS-SEM) ile analiz edilmiştir. Analizlerde SmartPLS 3 programı (Ringle et al., 2015) kullanılmıştır.

Araştırma sonuçları, akademik sebat ile takip (β=0.506, t=6.017, p<0.001); tepkisellik (β=0.331, t=3.523, p<0.001) ve belirginlik (β=0.505, t=5.704, p<0.001) arasında anlamlı bir ilişkiye sahip olduğunu göstermiştir. Dolayısıyla H1a, H1b ve H1c kabul edilmiştir. H2 hipotezi, akademik dikkat ile çevrimiçi tetikte olma davranışlarının ilişkili olduğunu varsaymaktadır. Sonuçlar, akademik dikkat ile tepkisellik (β=-0.202, t=2.400, p<0.001) ve belirginlik (β=-0.203, t=2.329, p<0.001) arasında anlamlı bir ilişkiye sahip olduğunu göstermiştir. Dolayısıyla H2b ve H2c kabul edilmiştir. Akademik dikkat, takip üzerinde ise anlamlı bir etkiye sahip değildir (H2a-Reject). Yapısal modelde, takip için R^2 0.276; tepkisellik için 0.162; belirginlik için 0.314 olarak hesaplanmıştır. Bu değerlere göre varsayılan modelin, çevrimiçi tetikte olma davranışlarındaki varyansın % 16-31 arasında açıkladığını göstermektedir. Çoklu grup analizlere göre, kadın ve erkek alt örneklemleri için akademik sebat ile takip ve belirginlik arasında ilişkilerin anlamlı olduğu bulunmuştur. Akademik sebat ile tepkisellik arasındaki ilişki erkeklerde anlamlı iken kadınlarda anlamlı değildir (p>0.05). Akademik dikkat ile çevrimiçi tetikte olmanın tüm alt boyutları arasındaki ilişkiler kadınlarda anlamlı iken erkeklerde anlamlı değildir.

Introduction

In online communication, many environments and platforms will ensure user engagement through various technologies, provide many opportunities for users to be satisfied, and support easy and fast access to information (Le Roux & Parry, 2020; Oulasvirta et al., 2012; Yildiz-Durak, 2018, 2019). This situation causes users to be constantly connected to online communication and interaction flows (Bayer et al., 2016; Mascheroni & Vincent, 2016; Vorderer & Kohring, 2013). Reinecke et al. (2018) pointed out that the determinant of the intensity of online communication is the possibilities offered by online communication.

However, interaction with digital technologies can lead to changes in the distraction and orientation of human behavior over time (Le Roux & Parry, 2020). Intense multitasking with digital technologies is associated with distraction in various cognitive areas, low academic performance, and poor performance in cognitive tasks even when technologies are not used (Uncapher & Wagner, 2018; Yildiz-Durak, 2019). In addition, many digital technology users today express the difficulties of being constantly connected to digital environments (Mihailidis, 2014).

A constant awareness of all these online communication and interaction issues has been defined as online vigilance (Vorderer et al., 2017). Reinecke et al. (2018) explained online vigilance in his study, considering the proposed structure. An online vigilance assessment tool adapted to Turkish culture by Karakoyun (2021) was used to investigate the distracting effects, attention strategies and potential effects of users' constant online connection on healthy living. Online vigilance addresses the differences in three dimensions of users' cognitive orientations towards online connectivity: salience, reactibility, and monitoring. The salience dimension describes the cognitive orientation of the participants toward the online environment and the extent to which people devote their thoughts to their online spaces, the reactibility dimension explains the immediate response to incoming online messages, and the monitoring dimension explains the routine monitoring of online content and messages and the tendency to enter online areas regularly. However, there is very limited research on the structures with which these dimensions are likely to be associated. In this study, academic self-control, which is thought to be related to the theoretical basis of online vigilance, is discussed.

Self-control can generally be defined as the capacity to suppress or override momentary desires to achieve a long-term goal (Baumeister et al., 2007). Self-control describes the structure of mental functions that help people resist impulse urges, manage competitive tasks, and maintain attention (Inzlicht et al., 2014). In this context, individuals with more self-control have more control over their emotions and behaviors. Therefore, self-control is especially important for success in the field of education. Research on self-control in young people has generally focused on executive functions and their importance (Diamond, 2013). Self-control is dependent on a set of interrelated cognitive processes, inhibitory control that enables goal-directed control.

It is unclear whether there are different subjective evaluations of how students regulate their motivation and behavior toward academic goals rather than alternative goals. Self-control involves multiple strategies that cannot be reduced to inhibition (Duckworth & Gross, 2014), so it is important to understand the factors beyond executive function that can contribute to successful self-management. In this context, the current study aimed to test whether online vigilance is associated with academic self-control. This study also examined the variation of this relationship with gender.

Online Vigilance

Today, when the use of technology in people's daily lives is examined, people are constantly online and constantly connected with others. These two situations are examined in the literature as the psychological state of constantly using online digital tools and being constantly communicative (Vorderer, Krömer, & Schneider, 2016). As an extension of the constant online state, users constantly find themselves so connected to others that they routinely develop a commitment mindset. This mindset has been described as online vigilance

(Kano, Ito, & Gui, 2022). Three characteristics of people with intense online wakefulness behavior are as follows: "(1) cognitive orientations to persistent, online connection; (2) their chronic attention to cues and stimuli associated with online communication and their constant integration into their thoughts and feelings; and (3) the tendency to prefer online communication options to offline behaviors" (Reinecke et al., 2018, p. 2). These three features make up the three dimensions of online vigilance. These dimensions are named; salience, responsiveness, and monitoring. Salient refers to the cognitive dimension, and relates to the frequency and intensity of thoughts about online communication and interaction flows. Responsiveness includes sensitivity to smartphone stimuli to the extent that it delays offline activities. Monitoring is the frequency with which the mobile device checks without any stimuli (Johannes et al., 2021). Reinecke et al (2018), who put forward the first basic view on online vigilance, see this situation as an ordinary form of participation in online environments, not qualifying it as addiction. Individuals with high online vigilance think about online situations frequently and intensely. While it is easy to combine heavy use with problematic use, research on smartphone use should define heavy use and problematic use independently of each other (Andrews, 2015). According to Le Rox and Parry (2020), which attracts more attention with the intensive use of smartphones, smartphone usage time predicts online vigilance poorly. In addition, it is argued in the study that the internet is used for leading purposes such as social media, video watching and messaging and that the purpose of the use is effective in the value of being online vigilant.

Academic Self-Control

Self-control is defined as the self-regulation of thoughts, feelings, and actions when permanently valued goals clash with more satisfying goals for a moment (Duckworth, 2019). Self-control is the choice between what you want most and what you want right now (Stadler, 2016). Academic self-control, on the other hand, refers to the individual's self-control behaviors related to the academic field. Büyük et al. (2020) identified two dimensions of academic self-control: academic perseverance and academic attention. The academic attention dimension includes the dilemma experienced when faced with an academic challenge that requires self-control, the ability to focus, delaying gratification, and resisting temptation. Academic perseverance dimension, on the other hand, is the ability to follow, plan, take responsibility and persevere after recognizing the dilemmas. The academic attention dimension refers to the dilemma a student experiences when faced with an academic challenge that requires self-control (Büyük et al., 2020).

Having academic self-control skills is an important variable that contributes to the academic success. These skills can be developed indirectly through families and schools or directly through programs that include some cognitive and behavioral strategies (Büyük et al., 2020). Many variables can predict academic self-control. Arnesen, Filland and Sweedis' (2017) study looked at the relationship between students' academic self-control and being online in the classroom, perception of educator qualities, and school appreciation. In the study, strong relationships were found between school-Internet conflict and academic self-control for both countries. Internet use varied according to classroom Internet access levels and the frequency and type of classroom Internet use. The conflict situation in the research is that the students are stuck between school norms and Internet opportunities. This research is important when discussing the need for schools to adapt to the widespread use of the Internet. The research was concerned with internet use in the school environment (Arnesen et al., 2017), and did not examine individuals' out-of-school internet or smart device use and academic self-efficacy.

The Role of Gender in The Relationship Between Academic Self-Control and Online Vigilance

In Barber's (2009) study on self-efficacy, Barber identified ACT scores, race, and gender as significant predictors of GPA in students with high self-control perceptions. However, in students with low self-control, ACT and race predicted college GPA, gender became nonsignificant. Troll et al. (2001) noted that self-control level predicts academic achievement. Self-control, which causes the postponement of the phone call, causes an increase in academic success. Le Roux (2021) carried out a study with 1476 university students in South Africa, and revealed a weak, negative relationship between online vigilance and academic performance.

Method

Participants

The research group consists of high school students in Turkey. Of the 128 participating high school students, 65 (50.8%) were female and 63 (49.2%) were male. The average age of the participants is 15.74.

Data Collection Tools

Online Vigilance Scale: It was developed by Reinecke et al. (2018) and adapted into Turkish by Karakoyun (2021). This scale consists of 12 items and 3 dimensions. The "salience" dimension measures the cognitive orientation of the participants towards the online environment, the "reactibility" dimension measures the instant response to incoming online messages, and the "monitoring" dimension measures the routine monitoring of online content and messages. The scale has a 5-point Likert scale. The higher the score to be obtained from the scale, the higher the online vigilance. A validation study was conducted regarding the adaptation of the scale to the age level. The validity and reliability findings of the scale are presented in the third section.

Academic self-control scale: This scale was developed by Büyük, Öğilmez, and Kapçı (2020). This scale consists of 12 items and 2 dimensions. This scale was developed to determine the individual's self-control behaviors related to the academic field. The scale has a 5-point Likert rating. As the score to be obtained from the scale increases, the online vigilance situation increases. A validation study was conducted regarding the adaptation of the scale to the age level. The validity and reliability findings are presented in the third section.

Personal Information Form: This form aimed to collect information about the participants' age, gender and grade. The form consists of 4 items.

Data Analysis

In this study, the data collection process was carried out online. The data collection processes carried out within the scope of this research was approved by the <Name of the approved ethics committee> ethics committee's document dated <Date of approval document> and numbered <number of approval document>.

In this study, the research model was analyzed with Partial least squares – structural equation modeling (PLS-SEM). SmartPLS 3 program (Ringle et al., 2015) was used in the analysis. In PLS-SEM, firstly, the measurement model was tested to prove the reliability and

validity of the structural model, followed by the structural model. In the structural model, path coefficients were used to examine the relationships. Bootstrapping was applied for 300 subsamples. In addition, the structural model was tested for sub-samples of male and female students, and the statistical significance of the differences between the path coefficients was examined by Multi-Group Analysis (MGA). One of the reasons why PLS-SEM is preferred is that PLS-SEM is less sensitive to violation of the normality assumption. Depending on the number of participants, it was a suitable method for this study due to its suitability for the use of non-parametric structural equation modeling.

Findings

Measurement Model

In the first stage, the measurement model was examined. Items with factor loads of 0.40 and below (Hair et al., 2017) were excluded from the model. All the remaining items were used in the model because they had factor loadings above the threshold value. Related findings are presented in Table 1.

Table 1. Factor loadings

Constructs	Items	Factor Loadings
Online Vigilance		
Salience	BEL1	0.847
	BEL2	0.898
	BEL3	0.896
	BEL4	0.904
Monitoring	TAK1	0.891
	TAK2	0.889
	TAK3	0.895
	TAK4	0.908
Reactibility	TEP1	0.901
	TEP2	0.868
	TEP3	0.933
	TEP4	0.894
Academic Self-Control		
Academic Perseverance	AC3	0.824
	AC6	0.691
	AC7	0.851

Academic Attention	AC10	0.840
	AC9	0.819
	AC12	0.834

For internal consistency reliability, findings on composite reliability, Cronbach's Alpha, rho_A coefficients are presented in Table 2. For composite reliability, the recommended limit value for Cronbach's Alpha and rho_A is 0.70, while a threshold value of 0.50 is recommended for Average Variance Extracted (AVE) values (Dijkstra & Henseler, 2015). In this study, the values given in Table 2 are above these threshold values. In this context, convergent validity was ensured and the structures in the study were reliable and had sufficient internal consistency.

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	**rho_A**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Academic Attention	0.777	0.783	0.870	0.690
Academic Perseverance	0.709	0.745	0.833	0.627
Monitoring	0.918	0.926	0.942	0.803
Reactibility	0.922	0.954	0.944	0.809
Salience	0.909	0.911	0.936	0.786

Heterotrait Monotrait (HTMT) correlation ratio method was used to examine the discriminant validity. According to Henseler et al. (2015), HTMT values should be lower than 0.85. According to Table 3, all HTMT values are below the 0.85 thresholds. In conclusion, the measurement model provided sufficient evidence that the structural model was suitable for testing.

Table 3. Heterotrait-Monotrait Ratio (HTMT)

	[1]	**[2]**	**[3]**	**[4]**
[1] Academic attention				
[2] Academic perseverance	0.177			
[3] Monitoring	0.172	0.601		
[4] Reactibility	0.252	0.404	0.733	
[5] Salience	0.290	0.628	0.850	0.792

Structural Model

The results of the structural model performed to test the statistical significance of the path coefficients are presented in Table 4 and Figure 1.

Table 4. Structural Model

Hypothesis	Path	β	t	p	Decision
H1a	Academic perseverance -> Monitoring	0.506	6.017	0.000	Accept
H1b	Academic perseverance _ -> Reactibility	0.331	3.523	0.000	Accept
H1c	Academic perseverance _ -> Salience	0.505	5.704	0.000	Accept
H2a	Academic attention -> Monitoring	-0.103	1.217	0.224	Reject
H2b	Academic attention -> Reactibility	-0.202	2.400	0.017	Accept
H2c	Academic attention -> Salience	-0.203	2.329	0.020	Accept

The H1 hypothesis assumes that academic perseverance is associated with online vigilance behaviors. Academic perseverance and monitoring (β=0.506, t=6.017, p<0.001) showed a significant relationship between reactibility (β=0.331, t=3.523, p<0.001) and salience (β=0.505, t=5.704, p<0.001). Therefore, H1a, H1b and H1c were accepted.

The H2 hypothesis assumes that academic attention and online vigilance behaviors are related. The results showed that there is a significant relationship between academic attention and reactibility (β=-0.202, t=2.400, p<0.001) and salience (β=-0.203, t=2.329, p<0.001). Therefore, H2b and H2c are accepted. Academic attention has no significant effect on monitoring (H2a-Reject).

In the structural model, R2 is 0.276 for monitoring; 0.162 for reactibility; 0.314 for salience. According to these values, the default model explains the variance in online vigilance behaviors between 16-31%.

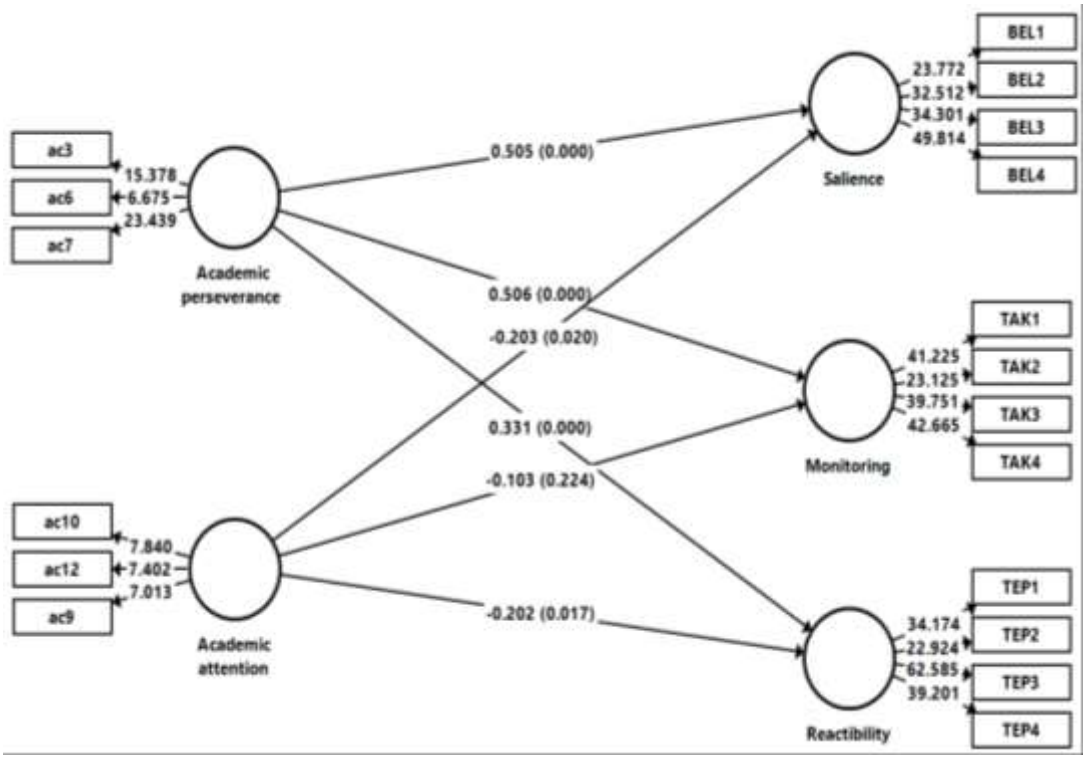

Figure 1. Structural Model (path coefficient (p values))

Multi Group Analysis

Multi Group Analysis (MGA) was performed to determine the significance of the differences among the gender groups selected as sub-samples in the findings related to the structural models.

Table 5. Multi Group Analysis

	Female			Male		
	Path	**t-Value**	**P Value**	**Path**	**t-Value**	**P Value**
H1a-Academic perseverance -> Monitoring	0,365	2,004	0,046	0,572	5,826	0,000
H1b-Academic perseverance -> Reactibility	0,282	1,820	0,069	0,328	2,359	0,019
H1c-Academic perseverance -> Salience	0,401	2,455	0,014	0,550	5,476	0,000
H2a-Academic attention -> Monitoring	-0,286	2,077	0,038	0,114	0,687	0,492
H2b-Academic attention -> Reactibility	-0,413	3,335	0,001	0,131	0,560	0,576
H2c-Academic attention -> Salience	-0,316	2,402	0,017	-0,029	0,157	0,875

When Table 5 was analyzed, there was a significant relationship between academic perseverance and monitoring and salience for female and male sub-samples. While the relationship between academic perseverance and was significant in men, it was not significant in women ($p>0.05$). While the relationships between academic attention and all sub-dimensions of online vigilance are significant in women, they are not significant in men.

Discussion

Online vigilance is a new concept. The number of studies on this subject is very few (Le Roux, 2018) and it has been specifically discussed from the perspective of internet or smartphone addiction, as well as media habits. (Reinecke et al., 2018). Le Roux's (2020) study is the first study on the relationship between personality traits and online vigilance. There was no study focusing on the relationship between academic perseverance and academic attention and online vigilance. In our study, a significant relationship was found between three sub-dimensions of academic perseverance and online vigilance. While three sub-dimensions were associated with academic perseverance for male sub-samples, it was not found to be associated with reactibility in women, but with the other two domains. Jang (2018) studied the relationship between grit and self-control, which are sub-dimensions of academic perseverance, and academic achievement and did not differ according to gender. Le Roux (2020) indicated that students switch between academic content and media frequently when they are online for academic purposes, and that acting in this way has a negative relationship with academic outcomes. In our study, while academic attention and reactibility and salience dimensions were related, they did not have a significant effect on monitoring. In addition, while the relationships between academic attention and all sub-dimensions of online vigilance are significant in women, they are not significant in men. Reinecke et al. (2018) stated that the online vigilance scale will help explain how and why it affects communication behaviors. The current study tried to explain the relationship between online vigilance value and gender and academic control with the help of this scale. Online vigilance is a form of participation in online environments. Bomhold (2013) highlighted that university students bury their heads in their smartphone screens on the university campus, look at mobile devices while walking on the street, in elevators, and even in classes, and that these devices are the constant companions of their students. It is important to research whether this was a reflection of the need for constant companionship or a different reason, and eventually found that online encyclopedias and libraries accounted for a small percentage of usage (Bomhold, 2013). According to Andrews (2015), examining how much people use their smartphones will have several benefits, and examining different usage patterns is likely to have social and professional consequences. Although online vigilance does not appear to be problematic technology use, it is negatively related to the academic fields of high school students in the study. In order to reduce the negative effects of online vigilance, it is important to develop strategies to reduce students' online vigilance behaviors and to investigate the effects of these strategies. Lee, Rox and Parry (2020) indicate in their study that media usage preferences are related to online vigilance, and that the duration of smartphone use predicts online vigilance poorly. In addition, in this study, the value of online vigilance changes according to media usage preferences. Therefore the effects of interventions that reduce screen time on online vigilance are controversial. For this reason, it is important to associate the strategies to be implemented with media usage preferences rather than screen usage time.

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