sciendo

Acta Educationis Generalis
Volume 10, 2020, Issue 2

DOI: 10.2478/atd-2020-0013

Educational Use of Social Media in Higher Education: Gender and Social Networking Sites as the Predictors of Consuming, Creating, and Sharing Content

Emel Dikbaş Torun*

Received: February 18, 2020; received in revised form: April 7, 2020;
accepted: April 10, 2020

Abstract:
Introduction: This study investigates the influence of gender and social networking sites (SNSs) such as Instagram, YouTube, WhatsApp, Facebook, and Twitter on consuming, creating, and sharing content within the educational social media usage behaviors of higher education students. The survey method is applied to measure students' social media usage for educational purposes. So that a more effective use of social media in education can be provided, it is important to understand how university students vary in their educational use of social media. The aim of this study is to examine how higher education students use social media for their educational purposes based on the content and activities with which the students engage. The aim of the research is to determine the correlations, if any, between gender, preferred SNS type, and educational social media in regard to consuming, creating and sharing content.
Methods: The derived scale is administered in Turkey with the participation of a total of 365 university students. Psychometric, validation and reliability analysis of the scale which is used in the study to collect the data were done first. Principal component analysis, exploratory and confirmatory factor analysis, descriptive, correlations and multivariate analysis of variance are applied to analyze the social media usage for educational purposes. Gender and the SNS type were set as the additional predictors of the consuming, creating and sharing content on social media.
Results: The validation and linguistic adaptation of the Inside School Social Media Behavior (ISSMB) scale from English to Turkish is performed first. Results showed that the three factors of the original scale were confirmed. Secondly, the derived scale is administered with the participation of a total of 365 university students. Results indicated that gender difference was a significant factor in explaining the content creation on social media. Instagram, WhatsApp, and YouTube are the most preferred SNSs for educational use among students at the higher education level. No significant effect was reported for the type of the SNS

* Emel Dikbaş Torun, Pamukkale University, School of Communication, Department of New Media and Communication, Denizli, Turkey; edikbas@gmail.com

used in consuming, creating, and sharing educational content on social media. The type of the SNS used by the students was not found to influence educational social media usage; accordingly, students consume, create and share content, regardless of the type of the SNS they use.

Discussion: Higher education level students prefer watching videos more than any other social media activity for their educational purposes. The second most frequently preferred social media usage activity was reported as searching for the learning resources or information pertaining to schoolwork. Creating content was the least favorable social media usage. When the social media usage purposes focus on schoolwork and are furthermore educational, males' social media usage outperforms the females. Thus, males were more likely to create content by using social media for inside schoolwork purposes than the females. Males were also more likely to have sharing habits than the females in sharing learning resources e.g., class notes with their classmates by using social media for their inside schoolwork purposes.

Limitations: The total number of participants used in the research sample is a limitation of this study. The study data were only collected in Turkey, and so the study results are only regionally generalizable.

Conclusion: Higher education students are consumers of the social media when they use it for educational purposes. Accordingly, students prefer being "passive consumer social media users who avoid active content creating". Students prefer watching the uploaded ready-to-watch videos who avoid instead of creating and uploading their own video content. When sharing items are compared with creating content items, students responded more to the latter. Students do share their information with classmates e.g. exam schedules and lecture notes. Compared to other sharing content usages, students less frequently preferred sharing extracurricular learning resources. The gender difference found herein is a predictor of social networking site usage among young people, and social networking usage changes according to gender. Males are reported as being more "giving" within a school setting when it comes to sharing the educational content with their colleagues and friends. Social media is a reality of our modern lives, one that is growing exponentially; it is highly crucial that researchers facilitate a better understanding of the ongoing changes and developments that are emerging and transforming learning.

Both outside and inside school, the social media usage behaviors of young people can be examined according to different age groups do determine any age-related differences. The subject can be improved with new findings and results from different sample groups.

Key words: social media, educational social media, Facebook, Instagram, YouTube, higher education.

Introduction

Social media can be defined as environments in which people interact, socialize, communicate, and express themselves as they wish through the use of Internet tools and Web 2.0 technologies. Content generation in social media, itself considered an extension of Web 2.0 technologies, is user-based, and the role of users is based on both content production and consumption. Therefore, user roles in social media are called as "prosumers" (Reagle, 2015). The process of interaction in social media is a multifaceted, continuous, and dynamic process that involves the users creating their own content, sharing this content, following up and rearranging the content of others, and being in constant communication throughout all these activities.

Certain social media content, such as a story posted on Instagram or a video uploaded on YouTube, is both consumed and produced by students. Students frequently contribute to online shared content by liking, commenting, or sharing content that is highly relevant to their own personal view or that reflects their ideas in the best way possible. In order to achieve their sharing goals, remaining up-to-date, and not to miss on various happenings and occurrences, students today are more often online than they are offline (Baym, 2015).

In addition to the rapidly increasing number of social media users, the diversity of social media platforms and applications is also expanding. Today, the most widely used platforms that come to mind when we consider social media are likely to be Facebook and Twitter (Rideout, 2015). Established in 2005, YouTube is the world's largest social network with 1.9 billion individual users in 2019. Instant messaging software, such as WhatsApp and Messenger, are also frequently used in everyday life as social networks; these examples show how social media have transformed our daily lives and traditional communication behaviors, as well as how it has led us all into a spiral of further activity. In the last few years, social media usage rates and the time spent on social media platforms has increased exponentially.

In order to understand the youth's social media usage in more detail, the researchers tend to focus on schools attended by youths. Recent research predicts that the social media behaviors of young people can change outside of school hours (Wang et al., 2014; Fox & Moreland, 2015). Some studies suggest that social media behaviors outside school tend to move away from educational and learning goals toward a more emotional and personal direction (Junco, 2012). For example, a meta-analysis revealed a negative relationship between students' academic achievement and their social media use (Huang, 2018). The assumption these researches make regarding young people's social media use inside and outside of school entails different dimensions. By measuring the degree of this difference further research and, the development of a measurement tool in particular was needed to reveal the relationship between the patterns of social media use both outside and inside the school.

How students spend their time online at school is mostly determined by the teachers (Foehr et al., 2010). There are a few studies examining the online activities in which students engage when using social media for schoolwork purposes (Roberts et al., 2005; Selwyn, 2012). Many factors influencing the students' social media use have been found; students' interest, self-regulation, their attitudes to their teachers and parents are among those factors reflecting students' interest (Hao & Jing, 2016).

Discussions on educational social media usage highlight the complexity of those forms of such social media usage actually relate to education and learning. It is argued that creating and sharing content, and subsequent sharing consumption of that created content is a one-way passive consumption of content, despite the process being a communal activity.

The students entering university all have a changing nature, and this is considered to be the most immediate significant aspect of social media use for those in higher education (Manca & Ranieri, 2016). By making it clear that social media tools and applications can bring about new forms of provision in higher education, new types of learning and new types of learners are emerging.

Studies underline that students can simultaneously deal with multiple social networking platforms, and that each social networking platform has its own usage and content dynamics that provide various features, such as self-display, self-acceptance, self-presentation, informality, and connectedness (Boczkowski et al., 2018). Furthermore, blogs as social networking platforms can promote interaction, collaboration, and cooperation among higher education students within a learning context (Ifinedo, 2017).

Additionally, social media is used for educational teaching purposes by instructors and teachers. Based on the research results pertaining to the frequency of social media use through the examination of sociodemographic variables, gender has also been found to have a limited impact on social media use for educational purposes. Concerning the type of social media environments that can be used for educational purposes, it has been argued that YouTube, Facebook, and Twitter are all examples of such utilizable educational tools. Age is another important factor, one that has been found to be more influential than gender among researches examining social media use. To motivate students in learning, Facebook and Twitter have been reported as major educational social media platforms while other tools such as Blog, Wiki, Podcast, YouTube, Vimeo, SlideShare, Research Gate, and Academia.edu are also used to improve the quality of teaching or to share educational content. YouTube and Vimeo have been reported as tools that motivate students, while Facebook has been reported as a tool for sharing content. As 'Digital Natives', students are commonly familiar and motivated regarding the use of social media (Hung & Yuen, 2010).

Social media is used both for information sharing and educational purposes. In a study conducted in Turkey that investigated the use of social media for

educational purposes, it was determined that students used social media for educational purposes and shared information about course contents with one another via social media and instant messaging tools. According to Özen et al. (2016) social media is able to bring distance-learning students closer together through the use of a common language. Özen et al. (2016) also reported that students shared their course contents intensively through social media. Students also stated that they helped one another sharing course content through social media. They also emphasized how they could get help from their mentors and classmates by communicating via social media, and also noted that a consequence of using social media was that it was highly useful concerning their educational practices and schoolwork (Özen et al., 2016).

In 2019, the number of social media users in Turkey was 44 million, more than half of Turkey's total population. Over 28 percent of internet users in Turkey use social media in Turkey, and comprise more than a quarter of all young people under 25 years of age; this number and ratio are both increasing. This remarkably ubiquitous use of social media by young people makes understanding where and how they prefer to use social media in everyday life.

The fact that social media use has increased exponentially in recent years makes understanding points whereby young people's social media behaviors differ importantly. The use of social media is a rapidly changing subject and so it is important that the subject is well understood. Based on the use and popularity of social media in Turkey, the country is among the world's leading countries in social media use. The ability to provide more effective use of social media in education will be important if the way in which university students vary in their use of social media behavior inside school is to be understood.

The aim of this study is to examine how Turkish university students use social media for the inside schoolwork purposes based on the content and activities in which they engage. The research questions are as follows:

1. How do students in higher education use social media for their inside schoolwork purposes for consuming, creating, and sharing content?
2. Is gender a significant factor in students' social media use for educational purposes?
3. Are there relationships between the type of the most frequently used social networking site (SNS) by higher education students and their behaviors of consuming, creating and sharing content?

1 Research method

1.1 Sample

The study data were collected from 365 study participants. All participants were university students attending the School of Communication, Education, Social Sciences, Sport Sciences and Business School of a public university from the Aegean Region located in the southwest of Turkey. Students included freshman,

senior, sophomore, and junior level students of all ages. To collect the study data, participating students answered the online survey via Google Forms during the spring semester of the 2018-2019 academic year. For the first data-collection phase, 806 students answered the survey. These data were then used for first level analysis in the scale adaptation study (Dikbaş Torun, 2019) and were excluded from the descriptive statistics of this study. At the second data collection phase, further analysis was undertaken to utilize the confirmatory factor analysis of the scale; accordingly, an additional 365 students answered the items. The current study used the most recent (second phase) data.

1.2 Data analysis

Principal component, exploratory and confirmatory factor, and descriptive statistics, correlation, and Multivariate analysis of variance (MANOVA) analyses were applied to analyze the social media use of students inside the school. Gender and type of SNS were set as the additional predictors of the consuming, creating and sharing content.

1.3 Research instrumentation

The Inside School Social Media Behaviour Scale (ISSMB) was first developed in English in 2018 by Lu et al. (Lu et al., 2018). The ISSMB was first adapted to Turkish by Dikbaş Torun (2019) and was used to collect the data for the current study. ISSMB comprises 10 items and has three subdimensions: consuming, creating, and sharing.

2 Results and analysis

2.1 Scale adaptation to Turkish

The Turkish version of the scale started as a language validity study. The translation and back translation stages of the Turkish version of the scale were performed by three language experts and three field experts. Language validity, Exploratory Factor (AFA), Confirmatory Factor (CFA), and reliability analyses were then performed. The results of these analyses revealed that the factor loads of scale items were good (above .69) and the total variance explained was high (ISSMB: 67.64%). The internal consistency value was also found to be acceptable for all factors. Accordingly, the Turkish version of the scale is valid and reliable.

2.2 Linguistic adaptation of the ISSMB scale and language validity

Before starting the Turkish adaptation of the scale, the researcher contacted Lu et al. (2018) to get permission for the scale adaptation study. After this permission had been given, the adaptation study started. The language equivalence studies of ISSMB scale was conducted with 40 people, including six experts (faculty members) and 34 students. The translation process of the scale from English to the target language, Turkish, started with translations

undertaken by six field experts. Three of these experts performed the translation process and three performed the reverse translation process. After the translations had been completed, 34 students attending the final year of English Language Teaching completed the English-Turkish form for language equivalence at 10-day intervals. These students were randomly selected from the English Language Teaching and English Language Philology departments of the same state university. All students who were used to complete the English-Turkish form for language equivalence had a cumulative grade point average of 80 out of 100. The results point out that ISSMB scale has the language validity.
The correlation coefficients between Turkish and English scale scores were found to be .85, while the correlations between the two scale scores found to be significant at the .01 level. The item correlation coefficients in the English and Turkish forms of the scales were found to be greater than .30. Based on these findings, it can be said that the Turkish and English forms of the ISSMB scale are equivalent in terms of language.

2.3 ISSMB scale exploratory and confirmatory factor analysis

After obtaining linguistic equivalence, EFA and CFA were performed. EFA criteria were adopted as the normal distribution, linearity, determination of outlier values and subtraction of null values. CFA criteria were the adequacy levels of the goodness of fit indices, while construct validity studies were used to determine validity of the scale. The reliability levels of the scale were determined by calculating the internal consistency coefficient of Cronbach Alpha. SPSS 22 and AMOS 23 were used to carry out all those statistical procedures used in the adaptation studies of the scales. The linguistic equivalence findings of the study indicate a high correlation between the Turkish and English forms.
The EFA and CFA results of the scale showed that the scale was good in predicting the actual measurement. The validity and reliability scale results were both found to be positive. Accordingly, it was concluded that the sub-dimensions of the latent variables were consistent with the original scale. The latent variable sub-dimensions of the ISSMB scale were observed as Consumption, Creation, and Sharing. The items in the ISSMB were therefore able to predict the sub-dimensions.
EFA was performed using the principal component analysis and Varimax rotation technique. Before the EFA calculations, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were applied. KMO values can range from 0 to 1; values above .5 are considered acceptable, values between .5 and .7 are considered moderate, values between .7 and .8 are considered good, values between .8 and .9 are considered very good, and values above .9 indicate excellent relational patterns among the items (Hutcheson & Sofroniou, 1999).
KMO value for the ISSMB was calculated as .79, this value is in the .7-.8 range and is therefore considered good. The Bartlett's test of sphericity value of the

scale was calculated as 1387.27 ($p<.001$, SD=45). This result shows that the dataset is appropriate for factorial analysis.

Table 1

Factor loadings and explained variances for ISSMB

Factor		*Factor loadings*	*Total Variance Explained %*
Consuming	Con1	0.90	23.85
	Con2	0.88	
	Con3	0.70	
Creating	Cre1	0.73	22.46
	Cre2	0.76	
	Cre3	0.78	
	Cre4	0.69	
Sharing	Sha1	0.81	21.33
	Sha2	0.72	
	Sha3	0.86	
			Total 67.64

As can be seen in Table 1, the results show that the factor loadings of all items were good, and that the total variance explained was sufficient (ISSMB: 67.64%). The EFA results of the ten-item ISSMB scale revealed that the three-item Consuming sub-dimension of the scale explains 23.85% of the total variance. When the factor loadings of the Consuming sub-dimension are examined, it is seen that the three factor loadings values are .70, .88, and .90. Comparatively, the Creating sub-dimension comprised three items in the original scale; however, it was seen that sub-dimension measured four items after the rotated component analysis was performed in this study. Cre4, the fourth item under the Creating sub-dimension was, in the original form, included under the Sharing sub-dimension. It can be seen that the Cre4 (Discuss schoolwork with classmates or teachers) predicted the Creating dimension rather than the Sharing sub-dimension, and the item was moved accordingly so that it was included under the Creating sub-dimension in the current study.

The total variance explained in the Creating sub-dimension was 22.46%. When the factor loadings of the three-item sub-dimension were examined, it was seen that values range from .69 to .78. The total variance explained by the Sharing sub-dimension was found to be 21.33%.

The cohesion indices obtained from the CFA show that the Turkish form of the ISSMB provides structural validity. The internal consistency values were

acceptable for all factors. The Turkish version of the scale was found to be both valid and reliable (Table 2).

Table 2

CFA Fit Indices

Fit Indices Used	*Perfect Fit Indices*	*Acceptable Fit Indices*	*ISSMB CFA Results*	*References*
x2/ sd	0 ≤ x2/sd ≤ 2	2 ≤ x2/sd ≤ 3	1.97	Hu and Bentler (1999)
GFI	0.95 ≤GFI ≤ 1.00	.90 ≤ GFI ≤ .95	0.96	Jöreskog and Sörbom (1993), Marsch, Balla, and Mcdonald (1988), Schermelleh-Engel and Moosbrugger (2003).
AGFI	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90	0.93	
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	0.98	Bentler and Bonnett, (1980), Bentler (1980), Marsch, Hau, Artelt, Baumertv, and Peschar, (2006).
NFI	.95 ≤ NFI ≤ 1.00	.90 ≤ NFI ≤ .95	0.96	
NNFI	.97≤NNFI≤1.00	.95 ≤ NNFI ≤ .97	0.98	
RMSEA	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤ .08	0.048	Browne and Cudeck (1993), Byrne and Campbell (1999), Hu and Bentler (1999), Schermelleh-Engel, and Moosbrugger (2003).
SRMR	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤ .10	0.05	

ISSMB scale fit index values were calculated as RMSEA=.048, GFI=.96, AGFI=.93, CFI=.98, NFI=.96, NNFI=.98, RMSEA=.48, and SRMR=.05. On examination of the ISSMB scale fit indexes, it was found that all indexes showed perfect fit. ISSMB scale has three latent and 10 observed variables (Figure 1).

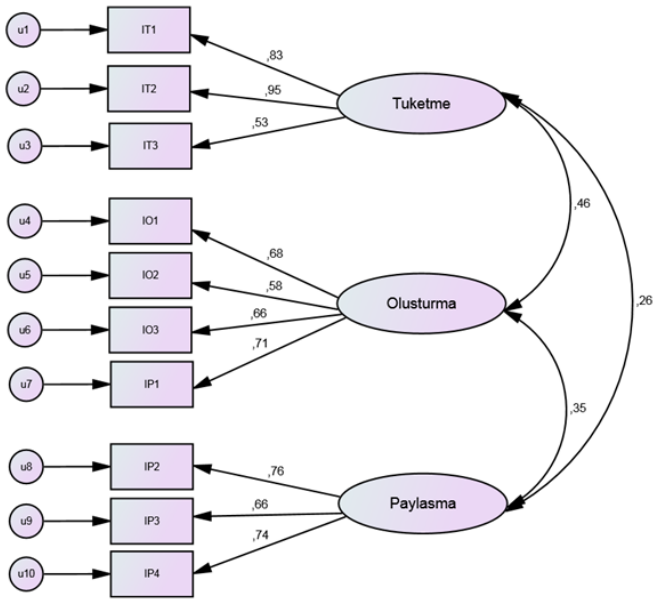

Figure 1. ISSMB adapted Turkish version path diagram: Consuming (Tüketme), Creating (Oluşturma), and Sharing (Paylaşma); IT (Inside school consuming), IO (Inside school creating), IP (Inside school sharing).

On examination of the convergence and differential validity of the ISSMB it was found that the scale values per collected data provided the validity criteria. Accordingly, the scale items can be said to accurately and distinctly measure the relevant structures. Internal consistency (Cronbach's alpha) value was calculated as .79. The internal consistency (Cronbach's alpha) coefficient was found to be above .70, and so the scale was found to be consistent (Table 3).

Table 3

Factors and reliability of the ISSMB scale

Factors	*Items*	*Cronbach's alpha*
Consuming	1,2,3	.80
Creating	4,5,6	.70
Sharing	7,8,9,10	.70
Total	10	.79

2.4 Social media usage inside school

An additional section of the ISSMB scale was used to gather data on the demographics of the students. The demographics of higher education students for gender and the SNSs that they used the most are given in Table 4.

Table 4

Demographics

Items/Demographics	***Variable***	***n***	***f %***
Gender	Female	261	71.50
	Male	164	28.50
Which SNSs do you use the most?	Facebook	29	8
	Instagram	164	45
	YouTube	55	15
	WhatsApp	87	24
	Twitter	26	7
	Other (e.g. LinkedIn)	4	1

Instagram is the most frequently used/preferred SNS, followed by YouTube, Facebook, WhatsApp and Twitter (45%, n=164). This means students who participated in this study used Instagram the most for their educational purposes. They shared stories, created archives, and followed up educational content on different Instagram accounts by following the accounts.

The descriptive analysis of mean and semantic difference results is given in Table 5.

Table 5

Descriptive statistics (Consuming: Con, Creation: Cre, Sharing: Sha, N=365)

Item	***Mean***	***SD***
Con1: Read posts relevant to schoolwork on social networking sites	3.40	1.20
Con2: Search learning resources or information about schoolwork	3.43	1.09
Con3: Watch videos about subject knowledge	3.54	1.17
Cre1: Write articles (e.g., on Wiki)	1.77	1.12
Cre2: Create videos, music, or photographs online	2.12	1.22
Cre3: Design posters, digital art, or graphics	1.94	1.25
Cre4: Discuss schoolwork with classmates or teachers	2.58	1.30

Sha1: Share school-related information with classmates (e.g., exam schedules)	3.40	1.24
Sha2: Share learning resources (e.g., class notes) with classmates	3.36	1.20
Sha3: Share extracurricular learning resources (e.g., reading books/videos) with classmates	2.94	1.36

Table 5 shows the descriptive statistics of consuming, creating, and sharing content on social media according to a sliding scale ranging from 1=Never, to 5=Always. Mean values for the consuming content on social media are the highest when compared mean values for Creating and Sharing (Mean=3.46). Concerning student responses, it was found that Consuming was the most frequent social media usage purpose among the students. After Consuming, Sharing content was found to be the second most frequent educational social media usage purpose among the student respondents (Mean=3.23). Finally, Creating was found to be the least frequent educational purpose for the students (Mean=2.10).

Regarding the results for each item, "watching videos" (Con3) was found to be the most frequently preferred usage form among the inside-schoolwork social media usage purposes. For their educational purposes, students preferred watching videos more than any other social media activity (Mean=3.54). Students "search for the learning resources or information about schoolwork" (Con2) at the mean value of 3.43, which refers to the second frequent social media usage activity.

Students "read posts relevant to schoolwork on social networking sites" (Con1) at the same frequency with which they share school-related information with their classmates (Sha1, Mean=3.40). As can be seen in Table 1, those items that concern the consumption of content comparatively have the highest mean values compared with the other.

Those items that concern creation of content had the lowest mean values among all the scale items. Students reported "writing articles e.g. wiki" (Cre1) as the least frequently used social media activity for a learning purpose (Mean=1.77). It was found that, when using social media platforms for learning, students do not usually prefer learning by writing. "Design and creating digital art or graphics" (Cre3) was the second least frequent social media usage activity for students, with a mean value of 1.94.

Students preferred watching the uploaded ready-to-watch videos instead of creating and uploading their own video content, and Cre2 was found to have a lower mean value (Mean=2.12) than Con3. When the sharing items are compared with the creating content items, students responded more positively to the former. Students share their own information with classmates e.g. exam schedules (Mean=3.40) and class notes (Mean=3.36). Compared with other

sharing content usages, it was found that students less frequently preferred sharing extracurricular learning resources (Mean=2.94).

2.5 Gender difference as a predictor of educational social media usage

To answer the research question 2 of the current study, an Independent Samples t-test was performed. Descriptive statistics for Consuming, Creating, and Sharing behaviors are given in Table 6. All of the mean scores are calculated out of 5. The average Con1 score was 3.52 for females and 3.11 for males. Among Con1, Con2, and Con3 scores, the highest mean was calculated for Con3, and this mean score was observed as being higher for males than for females (3.56 as compared with 5). When the Cre1, Cre2 and Cre3 averages are examined, the students reported the lowest means for the Creating subdimension, all of which were below the average (lower than 2.50). Male students scored better in Creating. Consequently, on examination of the mean scores for the Sharing subdimension, males were again found to have a relatively higher score than the females. Overall, it can be seen that, excepting Con1 and Con2, the male students' mean scores are higher than those for females across all the subdimensions in all variables.

Table 6

Descriptive statistics (Consuming: Con, Creation: Cre, Sharing: Sha, N=365)

Factor	***Gender***	***n***	***Mean***	***SD***	***t***	***p***
Con1	F	261	3.52	1.13	3.01	.003
	M	104	3.11	1.31		
Con2	F	261	3.45	1.05	.42	.679
	M	104	3.39	1.19		
Con3	F	261	3.53	1.17	-.17	.863
	M	104	3.56	1.16		
Cre1	F	261	1.60	.92	-3.77	.000**
	M	104	2.17	1.43		
Cre2	F	261	1.98	1.14	-3.53	.000**
	M	104	2.47	1.35		
Cre3	F	261	1.76	1.13	-4.20	.000**
	M	104	2.40	1.40		
Cre4	F	261	2.53	1.32	-1.30	.196
	M	104	2.72	1.23		
Sha1	F	261	3.34	1.25	-1.66	.097
	M	104	3.58	1.19		
Sha2	F	261	3.21	1.16	-3.96	.000**
	M	104	3.75	1.20		

Sha3	F	261	2.80	1.38	-	.002
	M	104	3.28	1.26	3.08	

** Correlation is significant at the .001 level

As can be seen in Table 6, there are significant differences between students' higher education educational content creating and sharing habits according to gender. The independent samples t-tests were associated with statistically significant effects. The differences are significant in Cre1 "Write articles, e.g., on Wiki" [t (365)=-3.77, p<.001], Cre2 "Create videos, music, or photographs online" [t (365)=-3.53, p<.001], Cre3 "Design posters, digital art or graphics" [t (365)=-4.20, p<.001], and Sha2 "Share learning resources e.g., class notes with classmates" [t (365)=-3.96, p<.001]. Thus, male students were associated with undertaking significantly more Creating activities for inside schoolwork social media use compared with female students. Males were also associated with significantly higher Sharing habits than the females concerning the sharing of learning resources e.g., class notes with their classmates by using social media for their inside schoolwork purposes.

2.6 SNSs and gender difference effects

Prior to conducting the MANOVA, Pearson correlations were performed between the variables in order to test the MANOVA assumptions. Additionally, the Box's M value of 700.09 was associated with a p value of .000, which is below the significance level of .005. Accordingly, it can be seen that the covariance matrices between the groups were not equal, Levene's test of equality of error variances were equal for the dependent variables across groups. The MANOVA results are given in Table 7 below.

Table 7

MANOVA results with Pillai's Trace

Effect	***Value***	***F***	***P***	***Partial Eta Squared***
Intercept	.863	218.023	.000	.863
SNSs	.176	1.275	.096	.035
Gender	.116	4.512	.000	.116
SNS*Gender	.033	.287	1.000	.008

MANOVA was conducted to test the effects of gender and SNSs on Consuming, Creating, and Sharing content for the educational use of social media. A statistically significant MANOVA effect was revealed for gender (Pillai's Trace=.116, F (10,345)=4.512, p<.001) indicating a statistically significant difference among the sub-dimensions (Con, Cre, and Sha) of social media use

between males and females. No significant effect was observed regarding the type of SNSs employed for the educational use of social media (Pillai's Trace=.176, F (50,1745)=1.275, p>.001).

To display the effects item by item for each dependent variable, the results of the test of between-subjects' effects are given in Table 8 below.

Consuming subdimension items are Con1, Con2, and Con3; Creating subdimension items are Cre1, Cre2, Cre3, and Cre4; Sharing subdimension items are Sha1, Sha2, and Sha3 respectively.

Table 8

Gender effect on the subscale items of Consuming, Creating, and Sharing Content

Source	***Items (DVs)***	***Type III Sum of Squares***	***df***	***Mean Square***	***F***	***P***	***Partial Eta Squared***
Gender	Con1	3.858	1	3.858	2.696	.102	.008
	Con2	.020	1	.020	.017	.897	.000
	Con3	.005	1	.005	.004	.952	.000
	Cre1	20.581	1	20.581	17.405	.000**	.047
	Cre2	15.933	1	15.933	10.771	.001**	.030
	Cre3	28.503	1	28.503	19.124	.000**	.051
	Cre4	5.901	1	5.901	3.645	.057	.010
	Sha1	2.519	1	2.519	1.656	.199	.005
	Sha2	11.500	1	11.500	8.282	.004	.023
	Sha3	8.045	1	8.045	4.381	.037	.012

** Correlation is significant at the .001 level

The gender effect for Cre1, Cre2, and Cre3 were all found to be statistically significant at the .001 level among the 10 subdimension items. No statistically significant effect of gender on Consuming and Sharing is reported. The main gender effect for Cre1 yielded an F ratio of F(1,364)=17.405, p<.001, indicating a significant difference between males and females. The gender effect for Cre2 was also found to be significant with an F ratio of F(1,364)=10.771, p=.001. The F ratio of Cre3 was F(1,364)=19.124, p<.001.

For the mean scores for SNS Type and Gender for Cre1, Cre2, and Cre3 items are shown in Figures 2, 3, and 4.

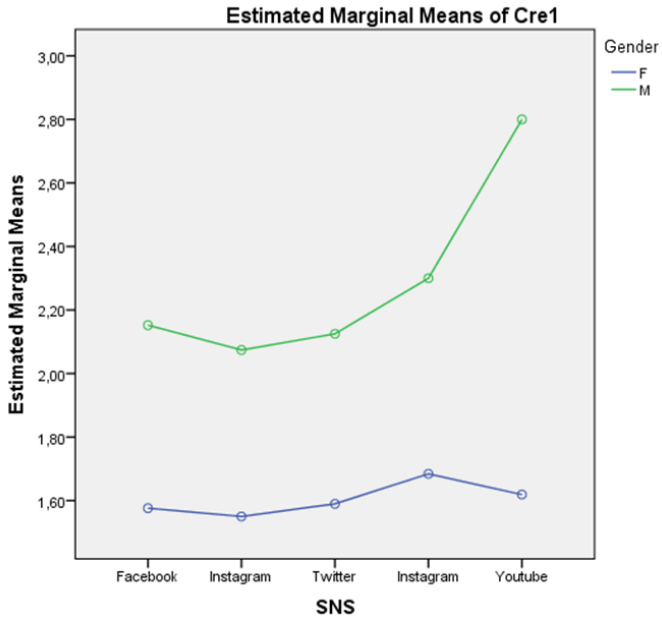

Figure 2. Mean differences by gender in using SNSs for Creating Content on social media (Cre1: "Writing articles").

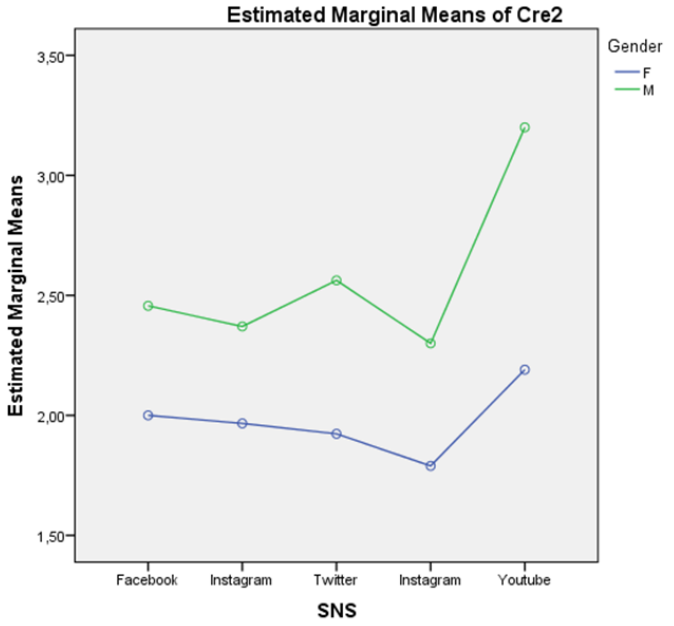

Figure 3. Mean differences by gender in using SNSs for Creating Content on social media (Cre2: "Create videos, music, or photographs online").

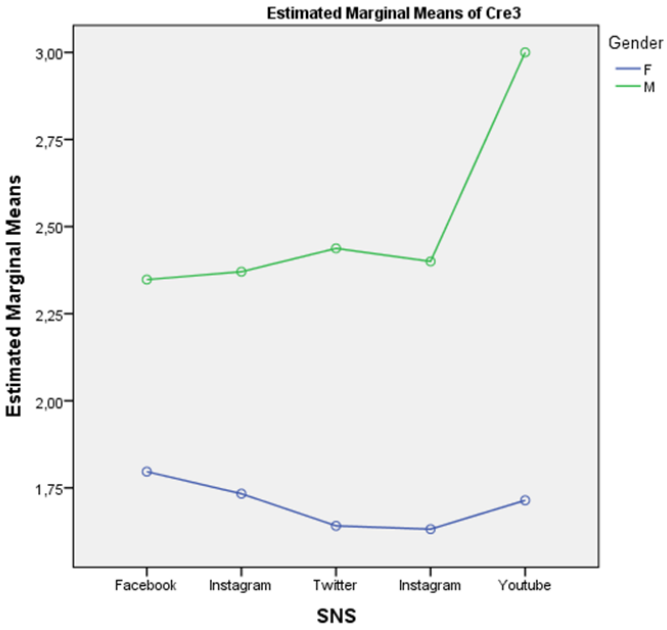

Figure 4. Mean differences by gender in using SNSs for Creating Content on social media (Cre3: "Design posters, digital art, or graphics").

3 Discussion and conclusion

This study examined the social media usage habits of higher-education students for educational purposes inside school in terms of Consuming, Creating, and Sharing of educational content. The first phase of the results showed that the scale developed by Lu et al. (2018), and adapted to Turkish for the first time in the current study, was valid and reliable. The lack of Turkish studies on this subject meant that this adaptation of the scale was important. This study was undertaken with the participation of the university students, instead of secondary school students (as were used in the original study). In future studies, different data sets might be formed using different sample structures. Accordingly, the social media usage behaviors of young people both outside and inside school could therefore be examined across different age groups so to determine age-related differences. The literature on this subject could therefore be improved with new findings and results from different sample groups.

Concerning the responses of students who participated in this study, it was found that consuming is the most frequent social media usage purpose for the students when used in school for educational purposes. Furthermore, it was found that students of a higher education level are more likely to consume 'ready-to-gain' content (educational content which is available on social media) rather than

creating and sharing it themselves. After consuming, sharing content was found to be the second most frequent educational social media usage purpose among the students. Finally, creating was reported as being the least frequent educational purpose among the students.

Concerning the results for each scale item measured in the current study, the most favorable social media usage for educational purposes inside school was found to be "watching videos". Students indicated that they preferred watching videos more than any other social media activity for their educational purposes.

The second most frequently preferred social media usage activity among the students was found to be learning resources or information about schoolwork. Lastly, Creating content was the least favorable social media usage preference among all educational usage aims. Students reported that "writing" content was the least frequent activity undertaken for a learning purpose on social media. Accordingly, it can be said that students do not usually prefer learning by writing when using social media platforms for learning. "Design and creating digital art or graphics" were the second least frequent social media usage activity for the students which meant drawing was also among unfavorable Creating content usage forms of the social media.

Based on these results it can be said that higher education students are social media consumers when using social media for educational purposes. In other words, students prefer being "passive consumer social media users avoiding active content creating" when using social media for educational purposes.

It was found that students prefer to watch uploaded ready-to-watch videos rather than creating and then uploading their own video content. On comparison, the sharing items and creating content items of the current study, it can be seen that students responded more positively to the former Sharing sub-dimension. Accordingly, it can be said that students often share their own information with classmates e.g. exam schedules and lecture notes. Compared with other sharing content usage, students less frequently prefer sharing extracurricular learning resources.

The type of the SNS used by students was not found to influence their educational social media usage, and students are able to consume, create, and share content, regardless of the type of the SNS they use.

Inconsistent with the results of the current study, are the results of another related study in which it is stated that in today's social networking sites, such as Facebook, students' communication perceptions are usually focused on sharing, self-presentation, and idea expression (Su & Chan, 2017). Furthermore, another study reported that Twitter can positively provide students' active engagement in class when used for the educational purposes (Junco, 2012). Active social media and social networking platforms available for educational use in higher education can ensure that students benefit the available hashtags in communicating with their institutions and colleagues (Gismondi & Osteen, 2017).

The gender differences revealed in the current study are predictors of social networking site usage among young people, and it was found that social networking usage changes according to gender. According to a different study, females were found to have a more positive and effective social media usage behavior than males (Dikbaş Torun, 2019b). The results of the current study are inconsistent with this result and show that, when usage purposes are both educational and focused on schoolwork, males' social media usage outperforms that of females. Accordingly, in the current study, males were more likely to create content by using social media for inside schoolwork purposes when compared with females.

Males were also found to be more likely to have sharing habits when compared with females regarding the sharing learning resources (e.g., the sharing of class notes with classmates by using social media for their inside schoolwork purposes). Males also reported greater "giving" within the school setting regarding the sharing of educational content with their colleagues and friends. In their study, Poelhuber and Anderson (2011) indicate positive attitudes toward technology, as well as greater experience with social media among male and younger students.

Finally, social media is a reality of our modern lives, one that is growing exponentially; it is highly crucial that researchers facilitate a better understanding of the ongoing changes and developments that are emerging and transforming learning.

References

Baym, N. K. (2015). Social Media and the Struggle for society. *Social Media + Society 1*(1), 1-2.

Bentler, P. M. (1980). Multivariate analysis with latent variables: Casual modeling. *Annual Review of Psychology, 31,* 419-456.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88,* 588-606.

Boczkowski, P. J., Mitchelstein, E., & Matassi, M. (2018). "News comes across when I'm in a moment of leisure": Understanding the practices of incidental news consumption on social media. *New Media & Society, 20*(10), 3523-3539.

Bogozzi, R. P., & Yi, Y. (1998). On the Evaluation of structural equation models. *Journal of the Academy of Marketing Science, 16*(1), 74-94.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assesing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing Structural Equation Models* (pp.136-162). Bevelry Hills, CA: Sage.

Büyüköztürk, Ş. (2010). *Sosyal Bilimler İçin Veri Analizi El Kitabı*. Ankara: Pegem Akademi Yayınları.

Dikbaş Torun, E. (2019). Adapting Social Media Behavior Scale to Turkish: Reliability and Validity. Sosyal Medya Davranışları Ölçeklerinin Türkçe'ye Uyarlanması: Geçerlik ve Güvenirlik Çalışması. *Akdeniz Üniversitesi İletişim Fakültesi Dergisi, 32*, 217-234. https://doi.org/10.31123/akil.620551

Dikbaş Torun, E. (2019). Students' social media use as a new communication environment: The case of Pamukkale University. In E. Doğan (Ed.), *Current Debates in Film and Media Studies* (pp. 43-51), London: IJOPEC Publication.

Fox, J., & Moreland, J. J. (2015). The dark side of social networking sites: An exploration of the relational and psychological stressors associated with Facebook use and affordances. *Computers in Human Behavior, 45*, 168-176.

Gismondi, A., & Osteen, L. (2017). Student activism in the technology age. *New Directions for Student Leadership, 2017*(153), 63-74.

Huang, C. (2018). Social network site use and academic achievement: A meta-analysis. *Computers & Education, 119*, 76-83.

Hung H.-T., & Yuen, S. (2010). Educational use of social networking technology in higher education. *Teaching in Higher Education, 15*(6), 703-714. https://doi.org/10.1080/13562517.2010.507307

Ifinedo, P. (2017). Examining students' intention to continue using blogs for learning: Perspectives from technology acceptance, motivational, and social-cognitive frameworks. *Computers in Human Behavior, 72*, 189-199.

Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior, 28*(1), 187-198.

Kirschner, P. A., & Karpinski, A. C. (2010). Facebook and academic performance. *Computers in Human Behavior, 26*(6), 1237-1245.

Lu, J., Hao, Q., & Jing, M. (2016). Consuming, sharing, and creating content: How young students use new social media in and outside school. *Computers in Human Behavior, 64*, 55-64.

Lu, J., Luo, J., Liang, L., & Jing, M. (2018). Measuring adolescents' social media behavior outside and inside of school: Development and validation of two scales. Journal of Educational Computing Research 57(5) 1108-1130.

Özen, Ü., Çam, H., Can, D., & Dönmez, Ö. (2018). Uzaktan Yükseköğretim Öğrencilerinin Sosyal Medyanın Eğitim Boyutu Konusundaki Algıları ve Eğitim Amaçlı Sosyal Medya Kullanımlarının Belirlenmesi. *The Journal of International Scientific Researches, 3*(1), 64-72. https://doi.org/10.23834/isrjournal.403692

Poellhuber, B., Anderson, T., & Roy, N. (2011). Distance students' readiness for social media and collaboration. *The International Review of Research in Open and Distributed Learning, 12*(6), 102-125.

Reagle, J. M. (2015). *Reading the Comments: Likers, Haters, and Manipulators at the Bottom of the Web*. Cambridge, Massachusetts: MIT Press.

Rideout, V. (2015). *The Common Sense Census: Media Use by Tweens and Teens. Common Sense Media.* Retrieved from https://www.commonsensemedia.org/sites/default/files/uploads/research/census_researchreport.pdf

Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). *Generation M 2: Media in the Lives of 8-to 18-Year-Olds.* Henry J. Kaiser Family Foundation.

Roberts, D. F. (2005). *Generation M: Media in the lives of 8-18-year-olds.* Henry J. Kaiser Family Foundation.

Manca, S., & Ranieri, M. (2016). Facebook and the others. Potentials and obstacles of social media for teaching in higher education. *Computers & Education, 95*, 216-230, https://doi.org/10.1016/j.compedu.2016.01.012

Selwyn, N. (2012). Social media in higher education. *The Europa World of Learning, 1*, 1-10.

Wang, S. K., Hsu, H. Y., Campbell, T., Coster, D. C., & Longhurst, M. (2014). An investigation of middle school science teachers and students use of technology inside and outside of classrooms: considering whether digital natives are more technology savvy than their teachers. *Educational Technology Research and Development, 62*(6), 637-662.