Higher Education Students' Social Media Platform Preferences for Educational Purposes

Preferencias de las plataformas de medios sociales de los estudiantes de educación superior con fines educativos

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Abstract
The aim of the study is to determine the preference rankings higher education students' social media platform preferences for educational purposes. The most used social media platforms in which people spend their time are respectively Instagram, TikTok, YouTube, WhatsApp, and Facebook in Turkey. These nine social media platforms were scaled using the method of pair-wise comparison. Participants of the study were 492 higher education students in Turkey. Data analysis was done using the Thurstone V. equation of state equation. In this research, social media tools preferred by higher education students for educational purposes are listed respectively as Instagram, WhatsApp, YouTube, Twitter, Snapchat, Telegram, Pinterest, Facebook/FB Messenger and TikTok. Also, the preferences of female and male higher education students upon social media tools for educational purposes are examined. According to this for female students it is listed respectively as WhatsApp, Instagram, YouTube, Twitter, Snapchat, Pinterest, Telegram, TikTok and Facebook/FB Messenger; and for male students, it is listed respectively as Instagram, WhatsApp, YouTube, Twitter, Telegram, Facebook/FB Messenger, Snapchat, and Pinterest.
Keywords: social media, educational purpose, preference, gender

Resumen
El objetivo del estudio es determinar las clasificaciones de preferencia de las preferencias de la plataforma de redes sociales de los estudiantes de educación superior con fines educativos. La plataforma de redes sociales más utilizada en la que las personas pasan más tiempo son Instagram, TikTok, YouTube, WhatsApp y Facebook en Turquía. Estas nueve plataformas de redes sociales se escalaron utilizando el método de comparación por pares. Los participantes del estudio fueron 492 estudiantes de educación superior en Turquía. El análisis de los datos se realizó utilizando la ecuación de estado de Thurstone V. En esta investigación, las herramientas de redes sociales preferidas por los estudiantes de educación superior con fines educativos se enumeran respectivamente como Instagram, WhatsApp, YouTube, Twitter, Snapchat, Telegram, Pinterest, Facebook / FB Messenger y TikTok. Además, se examinan las preferencias de los estudiantes de educación superior de ambos sexos sobre las herramientas de medios sociales con fines educativos. De acuerdo con esto, para las estudiantes femeninas, se enumera respectivamente como WhatsApp, Instagram, YouTube, Twitter, Snapchat, Pinterest, Telegram, TikTok y Facebook / FB Messenger; y para los estudiantes

masculinos, se enumera respectivamente como Instagram, WhatsApp, YouTube, Twitter, Telegram, Facebook / FB Messenger, Snapchat y Pinterest.
Palabras clave: redes sociales, propósito educativo, preferencia, género.

1. Introduction

The social media concept, which was known by a few people until twenty years ago, has become a fact at the present time which is almost known by everybody. People's needs change correspondingly to the rapid development of the Internet and technology. Internet users who read the contents which were written by particular persons, in the beginning, gained the opportunity to comment on the contents, to communicate with the writers and to produce their contents (with the development of web 2.0) in time. Thus, information flows have become multi-directional rather than unidirectional. This situation inevitably leads to the use of information technologies in lots of fields. It is seen those information technologies are utilized in fields from trade to health, from education to tourism and in lots of fields. One of the fields which have the most participants in mass around the world is education. Technology use always arouses interest within education systems; because benefitting from technology in order to convey more accurate information to more students in a shorter time is one of the most reasonable solutions. Many of the elements which have to be included within the educational environment are also present in social media platforms. Elements such as content (information) production, sharing, and one-way or mutual communication form the basis of social media platforms as is the case in education. Therefore, the use of social media platforms for educational purposes increases.

Today, we are tied to each other more than ever. Social networking sites play a significant role in this situation. According to a global report, there are nearly 4,623 billion internet users around the world by the year 2022 and 58.4% of these people are active social media users (Kemp, 2022a). These numbers have increased consistently for the past decade. Meanwhile, social media users have considerably transferred from PCs to mobile devices (Acarsoy, 2019). According to WeAreSocial 2022 report, Facebook is the most commonly used social media platform throughout the world. Respectively YouTube, WhatsApp, Instagram, Wechat, TikTok, FB Messenger, Douyin, QQ, Sina Weibo, Kuaishou, Snapchat, Telegram, Pinterest, Twitter, Reddit and Quora come after Facebook (Kemp, 2022a). In Turkey most commonly used social media platform is WhatsApp. Instagram, Facebook, Twitter, FB Messenger, Telegram, TikTok, Pinterest, Snapchat, LinkedIn, Skype, IMessage, Discord, Tumblr, and Reddit come after WhatsApp (Kemp, 2022b). In accordance with the same report, the social media tools on which people spend their time most are respectively Instagram, TikTok, YouTube, WhatsApp, and Facebook. The most commonly used social media platforms in Turkey form the basis for this research. Also, the YouTube platform on which people spend their time most is included in the research. Social media platforms which are included in the study are explained below and information upon their use for educational purposes is provided.

WhatsApp was established in 2009 as an alternative to SMS. WhatsApp is an instrument which enables to send and receive various media such as texts, photos, videos, documents, and locations; and to make voice calls (WhatsApp, 2022). Although WhatsApp does not have any mission as education, students are able exchange information among themselves upon the lessons with WhatsApp groups (Abdullah, 2022). Also, WhatsApp groups in

which educators participated can lead the students to reach the information rapidly. In research, five main educational opportunities of WhatsApp are specified as (Klein et al., 2018): Interaction, information sharing, cooperation and being widespread. Zan (2019) determined that WhatsApp is a source of motivation for students; it accelerates communication, reminds of deadlines, and enables easy access to learning materials (Fauzan et al., 2022). Çetinkaya (2017) has found out that supporting the lesson with WhatsApp increases the success and engagement of the students. It is seen in a study, examining use of WhatsApp in medical education, those exploration-conduction-evaluation strategies are used effectively via short messages (Coleman & O'Connor, 2019). In an experimental study carried out with WhatsApp for 6 months, it was found that the information levels and loyalty of the participants in the experimental group increased, and they felt less isolation with respect to the participants in the control group (Pimmer et al., 2019). Though in general, positive aspects of WhatsApp are focused on literature, some studies indicate its negative aspects. In an experimental study, students perceive WhatsApp positively whereas teachers mention about many disadvantages of it such as it is not fair for the students who do not have Internet connection, it decreases the participation of students in the lessons and their motivations; and appropriate language use cannot be ensured (Zan, 2019). In a study negative effect of WhatsApp on students are compiled (Yılmazsoy et al., 2020). These are students who are addicted to instant messaging experience academic failure, they cannot control the time they spend on messaging, they neglect their homework, difficulties in understanding and learning skills.

Instagram was established in the year 2010 as a social media platform which enables sharing photos and videos and making comments on these photos and videos. In 2013 it offered people opportunity to share reels for fifteen seconds and in the later years people are able to share longer reels videos. It is seen that Instagram is commonly used for foreign language education (etc: Handayani, 2017; Khalitova & Gimaletdinova, 2016). Except this an experimental study in which students loaded their visuals to Instagram in field work in geography lesson was conducted (Davies et al., 2019). According to these students expressed that they got real time feedback from the teachers, and this increased their active participation in the lesson. In a study carried out upon physical education lesson students loaded videos showing that they completed the requirements of the lesson (Hortigüela-Alcalá et al., 2019). Educators both gave feedback and prepared an environment in which the students could debate by following the students. They stated at the end of the research that students gained great motivation and they felt as if they were part of a significant process. It is highlighted by the researchers that in order to be used for educational purposes Instagram can be added within Learning Management System (LMS) or fields such as Instagram.edu can be functional (Reyna, 2021).

Facebook has rapidly spread to all age groups although it was established in the year 2004 by university students for forming an interaction with each other. Facebook groups provide interaction among members (Manca & Ranieri, 2013, 2016). Studies made upon the use of Facebook for educational purposes show that students are more relaxed while communicating with their teachers; however, teachers do not share the same opinions about the limits (Sturgeon & Walker, 2009). It is emphasized in a meta-analysis upon the use of Facebook in education that Facebook has many advantages; but in order to evaluate these advantages it needs to be integrated into education (Chugh & Ruhi, 2018). Besides this, Facebook groups are communities which are online, accessible and provide opportunities to continue interaction out of the class (Everson et al., 2013). In research, it

is determined that official course Facebook groups increase the social connection among the students, ensure more positive relations with the faculty, refer to lower stress level, increase contentment and satisfaction (Badge et al., 2012; Sturgeon & Walker, 2009). Experimental research conducted with pre-service teachers show that Facebook provides better learning when compared to formal education and increases the participation in the lesson (Saini & Abraham, 2019).

Twitter emerged in the year 2006 as a micro blog application which enables short message writing from mobile phones as a part of blog and social network sites (Twitter, 2022). As the post which is shared in Twitter is limited to 140 characters (it has been increased to 280 characters since 2017), this situation is dealt as a significant restriction for its use in education (Everson et al., 2013). It is determined in a study conducted about education that video clips which are not only prepared by the educators but also prepared by the students on Twitter and on which the students make comments to each other have a strong effect on students (Junco et al., 2013). In a meta-analysis investigating experimental studies in which Twitter was used in education during the years 2006-2015, it was confirmed that Twitter has a "motivating" role for students in the fields of course information, homework, and exam dates and peer interaction (Tang & Hew, 2017). It was stressed in the same study that the results of Twitter's use in education were not evident. In addition to these it is emphasized that Twitter has many contributions increasing student contentment such as preventing isolation, facilitating interaction with both educator and other students; and having the students who do not participate in the debates during the lesson participating in them via Twit (Kunka, 2020).

Telegram was actualized by Durov brothers in the year 2013. Telegram is a secure instant messaging service offering multi-platform backup. Users can share text, photos, video, audio records, sticker, and files up to two gigabytes among each other (Telegram, 2022). Telegram is used as an instant communication tool in many sectors due to its features. Many of these features are the features which are available in education environments (especially in distance learning environments). With this context it is seen that telegram is used in many studies aiming at education (Abu-Ayfah, 2019; Alahmad, 2020; Alcayde et al., 2017; Alcayde García et al., 2022; Conde et al., 2021; Ismawati & Prasetyo, 2020; Jnr Gyane, 2021; Khademolhosseini et al., 2017; Khalil & Rambech, 2022; Soon et al., 2022; Xodabande, 2017).

TikTok or Douyin which is its name known in China is a social media application enabling a live broadcast besides video making and sharing which are created on the basis of Musical.ly. TikTok which was established in the year 2016 has become one of the applications which enlarge most rapidly with its short-duration videos (TikTok, 2022). It enables users to make short videos in types of musical, dance, comedy, acting, lip synchronization and other types of videos. TikTok is used for making short videos continuing from fifteen seconds to three minutes in types of dances, comedy, and education. Users sharing information upon education circulate their videos by sharing them with #LearnOnTikTok and #EduTok hashtags (Fiallos et al., 2021). It has started partnerships with education technology initiatives with #EduTok hashtags in order for creating educational content on the platform (Hutchinson, 2020). As a result of these initiatives it has many studies in education fields such as health education (Comp et al., 2021; Fraticelli et al., 2021; Nikookam & Guckian, 2021), sport sciences education (Escamilla-Fajardo et al., 2021), foreign language education (Pratiwi et al., 2021; Xiuwen

& Razali, 2021), chemistry education (Hayes et al., 2020), physics education (Syah et al., 2020), IoT education (Draganić et al., 2021), museum education (Huebner, 2022), dance education (Heyang & Martin, 2022; Warburton, 2022), etc.

Pinterest which was established in the year 2009 is a social network platform having the feature of image sharing; people can share all kinds of visuals on it, and it works with pin board system. It uses images and smaller-scaled GIFs and videos in bulletin boards type (Pinterest, 2022). It reinforces visual learning. Thus, it is very functional when used by digital local students (Ramos & Fernández-Diego, 2013). Pinterest is a creative tool for students when they use it to organize sources for presentations, projects, trials, etc (Izadpanah, 2021). Pinterest is used for educational purposes in visual fields such as art (Chapman et al., 2019), architecture (Amer & Amer, 2018; Izadpanah, 2021). It is specified that Pinterest increases teacher-student interaction (Amer & Amer, 2018; Burden, 2018; Izadpanah, 2021), provides collaborative learning and efficient academic interaction (Izadpanah, 2021).

Snapchat which was established in year 2011 is an instant messaging which enables people to express themselves, to live the moment, to learn what is going on around the world and to have fun together; and it is a camera which enables people to forward images (Snap Inc., 2022). The most significant feature of Snapchat which separates it from other social media tools is that shared things disappear in a short time. In an experimental study it is specified that using Snapchat can be a strong tool for medical education; and it can be functional because it creates urgency for students as the media sent to Platform can be used only within 24 hours (Khan & Carroll, 2017). Studies upon the use of Snapchat in higher education are extremely limited (Fenn & Reilly, 2020).

YouTube was established in the year 2005 as a website enabling video sharing, commenting, and communicating with other people (Lehman et al., 2010). Use of YouTube for educational purposes firstly began with (Trier, 2007a, 2007b) works. Afterward researches upon its use in many fields such as nursing education (Duncan et al., 2013), chemistry education (Franz, 2012) dance education (Hong et al., 2020) have been conducted. It is asserted that use of YouTube for educational purposes provides many advantages for educators (Srinivasacharlu, 2020). These are expressed under main titles as making contributions to professional developments of educators, learning by observing other educators, presenting interesting and attractive contents for the students, enabling to reach new knowledge free of charge, its being visual and audio, being watchable in every place and at any time, mobile learning, everyone's having right to speak, micro learning, note taking, pausing opportunity, easy access to the contents such as graphics in order to understand confused concepts, video slowing option for people who learn slowly. It is emphasized that YouTube should not replace the lessons completely despite its above-mentioned advantages; and that it can be used in classes for the main points, visuals or summary of the subject (Srinivasacharlu, 2020). Also, one of the important advantages of YouTube is its easy integration to LMSs such as Canvas, Moodle (Mpungose & Khoza, 2022; Pratama et al., 2022).

Social media usage purposes also differ according to gender (Karatsoli & Nathanail, 2020; Kim et al., 2014). Most of the literature on the acceptance of e-learning applications emphasizes that gender is an important factor (Okazaki & Renda dos Santos, 2012; Ong & Lai, 2006). Recent research (Çelik et al., 2021) show that social media preferences for

female students it is listed respectively as WhatsApp, Instagram, YouTube, Twitter, Snapchat, Facebook, and for male students, it is listed respectively as WhatsApp, Instagram, YouTube, Snapchat, Facebook and Twitter. For this reason, it is thought that higher education students' preferences for educational social media tools may differ according to gender.

Research on the educational use of social media platforms is increasing rapidly. Although there has been various research on the preference of social media tools, there is no research on the preference for educational use of social media tools. In addition, the use of social media tools for educational purposes is changing rapidly with the developing technology. The aim of this study is to determine the preference rankings higher education students' social media platform preferences for educational purposes. Most used social media tool which people spend their time most are respectively Instagram, TikTok, YouTube, WhatsApp, and Facebook in Turkey. Also, YouTube platform on which people spend their time most is included in the research. In addition, higher education students' social media preferences for educational purposes were examined.

3.Materials and Methods

3.1. Research Pattern

This study aims to make a status assessment and thus is survey research. It also contains a scaling study and therefore is also applied research.

3.2. Participants

Participants were 492 voluntary Higher Education Students (294 females and 198 males) in Turkey. The ages of the participants varied between 17 and 46, with an age average of 21.1 (SD=3.28). 59.75% of these students (N=294) were female, and 40.25% (N=198) were male. In this study, the participants were determined by means of convenience sampling (Fraenkel et al., 2012).

3.3. Data Collection Tools

The design and principle for the scale construction, in the method of pairwise comparison, is based on the work of Thurstone (1927, 1959). Pair-wise comparison method, a judgment approach, was used as the scaling method. Thirty-six items made up of pair combinations of nine discrete social media platforms comprise the data collection tool, which uses the paired comparison judgment approach method. Each item of the tool presents the participants with two social media platforms and asks them to select one over the other (e.g., YouTube-WhatsApp, YouTube-Instagram, YouTube-Facebook/Facebook Messenger, YouTube-Twitter, YouTube-Telegram, YouTube-TikTok, YouTube-Pinterest, and YouTube-Snapchat). All the data was collected via Google Forms. The questionnaire form was shared, in the spirit of the study, on various pages and groups on various social media platforms without any city, region or university limitations. The social media platforms involved in the study as listed below:

- YouTube
- WhatsApp
- Instagram

- Facebook / Facebook Messenger
- Twitter
- Telegram
- TikTok
- Pinterest
- Snapchat

3.4. Data Analysis

The scaling method with pairwise comparisons was developed by Thurstone (1927). In this scaling method, participants are asked to choose one of the pairs of stimuli presented to them over the other. Non-chose judgments are not allowed (Turgut & Baykul, 1992). After the presented stimuli are compared in pairs by the observers, statistical processes for calculating the scale values for each stimulus are started. The steps followed in this context, I. creating the frequency matrix, II. calculating the ratio matrix, III. obtaining the unit normal deviations matrix, IV. finding the average of each column in the unit normal deviation matrix, and V. applying a shift to the found averages that will shift the starting point of the scale values to zero (Erkuş, 2019; Tekindal, 2015). With the completion of these steps, the data collected by pairwise comparisons are brought to the level of an evenly spaced scale (Güler et al., 2018). Also, this procedure was re-executed separately for females and males. All calculations regarding the paired comparison scaling process in this study were using Google Sheets. The data set used in the research can be accessed at https://doi.org/10.17605 /OSF.IO/ 3AJSE (Çelik et al, 2022).

4. Results

Social media platforms used by the participants were scaled using a paired comparison. The students were first asked to rank the nine platforms using paired comparisons and frequency values belonging to each platform were determined using their reactions to these rankings. These frequency values were used for the frequency matrix in Table 1.

Table 1. Frequency Matrix (F)

Social Media Platforms	1	2	3	4	5	6	7	8	9
1 YouTube	–	254	244	474	361	456	431	440	385
2 WhatsApp	238	–	267	474	395	458	449	459	443
3 Instagram	248	225	–	480	409	444	457	456	443
4 Facebook / FB Messenger	18	18	12	–	84	196	319	246	238
5 Twitter	131	97	83	408	–	380	409	413	372
6 Telegram	36	34	48	296	112	–	332	309	273
7 TikTok	61	43	35	173	83	160	–	190	171
8 Pinterest	52	33	36	246	79	183	302	–	210
9 Snapchat	107	49	49	254	120	219	321	282	–

The frequency matrix was created based on the preference status of the stimulant in the row in comparison with the stimulant in the column. For example, 238 people prefer (1) YouTube to (2) WhatsApp, and 254 people prefer (2) WhatsApp over (1) YouTube. As a stimulant cannot be compared to itself on the frequency matrix, elements on the diagonal line were not included.

After the frequency matrix was completed, to form the ratio matrix, values in each cell of the frequency matrix were divided into the total number of participants, 492. The resulting values were used to create the ratios matrix in Table 2. The sum of elements symmetrical to the diagonal line appears to be 1.

Table 2. Ratios matrix (P)

Social Media Platforms	1	2	3	4	5	6	7	8	9
1 YouTube	–	0.52	0.50	0.96	0.73	0.93	0.88	0.89	0.78
2 WhatsApp	0.48	–	0.54	0.96	0.80	0.93	0.91	0.93	0.90
3 Instagram	0.50	0.46	–	0.98	0.83	0.90	0.93	0.93	0.90
4 Facebook / FB Messenger	0.04	0.04	0.02	–	0.17	0.40	0.65	0.50	0.48
5 Twitter	0.27	0.20	0.17	0.83	–	0.77	0.83	0.84	0.76
6 Telegram	0.07	0.07	0.10	0.60	0.23	–	0.67	0.63	0.55
7 TikTok	0.12	0.09	0.07	0.35	0.17	0.33	–	0.39	0.35
8 Pinterest	0.11	0.07	0.07	0.50	0.16	0.37	0.61	–	0.43
9 Snapchat	0.22	0.10	0.10	0.52	0.24	0.45	0.65	0.57	–

In order to acquire the unit normal deviation matrix, standard values that correspond to the cell values in the ratio's matrix must be determined first. In order to do this, the unit normal deviation Z values corresponding to each element on the ratios matrix in Table 2 were calculated. Thus, the unit normal deviation matrix found in Table 3 was created. You can see in this table that elements falling on either side of the diagonal are the opposite of their counterparts on the other side. To display the sum values for each column, a row was added at the end of the matrix and in it averages for the total values in each column were typed in. Afterwards, these averages were divided into nine, the element number of the columns; and the scale values were thus calculated. The sum of this row is also zero.

Table 3. Unit normal deviance matrix

Social Media Platforms	1	2	3	4	5	6	7	8	9
1 YouTube	–	0.041	-0.010	1.792	0.624	1.453	1.155	1.250	0.781
2 WhatsApp	-0.041	–	0.107	1.792	0.852	1.482	1.357	1.498	1.284

3	Instagram	0.010	-0.107	–	1.971	0.959	1.296	1.467	1.453	1.284
4	Facebook / FB Messenger	-1.792	-1.792	-1.971	–	-0.951	-0.258	0.381	0.000	-0.041
5	Twitter	-0.624	-0.852	-0.959	0.951	–	0.747	0.959	0.992	0.694
6	Telegram	-1.453	-1.482	-1.296	0.258	-0.747	–	0.453	0.327	0.138
7	TikTok	-1.155	-1.357	-1.467	-0.381	-0.959	-0.453	–	-0.289	-0.392
8	Pinterest	-1.250	-1.498	-1.453	0.000	-0.992	-0.327	0.289	–	-0.184
9	Snapchat	-0.781	-1.284	-1.284	0.041	-0.694	-0.138	0.392	0.184	–
	SUM	-7.085	-8.331	-8.332	6.423	-1.908	3.802	6.454	5.414	3.563
	Sj	-0.787	-0.926	-0.926	0.714	-0.212	0.422	0.717	0.602	0.396
	Sc	0.139	0.000	0.000	1.639	0.714	0.634	0.929	0.206	0.000
	Scale's Score	0.139	0.000	0.000	1.639	0.714	1.348	1.643	1.527	1.322

The next step involved moving the origin point of the axis to -0,9258007845 (Instagram), the smallest of the average Z values in the Sj row. To achieve this, every scale value was added 0,9258007845, the absolute value of this scale, thus determining the scale value for each platform and ranking the scale scores. The scale values for each platform are displayed on the numerical axis in Figure 1.

Figure1. Presentation of scale values regarding the stimulants on a numerical axis

According to the stimulant values in Figure 1 numerical axis, social media preferences are ranked as can be seen below in Table 4.

Table 4. Social media platforms scale's score and rankings

Rankings	Social Media Platform	Scale's Score
1	Instagram	0.0000000000
2	WhatsApp	0.0001034757
3	YouTube	0.1385906532
4	Twitter	0.7138179821
5	Snapchat	1.3217052593
6	Telegram	1.3482261888
7	Pinterest	1.5273865032
8	Facebook / Facebook Messenger	1.6394346646
9	TikTok	1.6429423332

The smallest scale value on Table 4 indicated the most widely preferred social media platform for distance education, whereas larger values point to the lack of preference for their respective platforms. According to these values, Instagram is the most preferred social media platform for education. It is followed by WhatsApp, YouTube, Twitter, Snapchat, Telegram, Pinterest, and Facebook/FB Messenger. The least preferred social media platform was determined to be TikTok for learning anything from the Internet.

The paired comparison procedure was repeated to determine whether the rankings varied between the females and males' groups. According to the stimulant values in Figure 2 numerical axis, social media preferences for gender are ranked as can be seen below in Table 5.

Table 5. Social media platform preferences according to gender

Social Media Platform	Female		Male	
	Scale's Score	Rankings	Scale's Score	Rankings
YouTube	0.2154761052	3	0.0788328927	3
WhatsApp	0.0000000000	1	0.0480177765	2
Instagram	0.0445117202	2	0.0000000000	1
Facebook / FB Messenger	1.8356985897	9	1.4589479202	6
Twitter	0.6926882854	4	0.8033310582	4
Telegram	1.3830432315	7	1.3693722721	5
TikTok	1.5865373571	8	1.7118435093	8
Pinterest	1.3779799537	6	1.8741708200	9
Snapchat	1.2254017833	5	1.5574939391	7

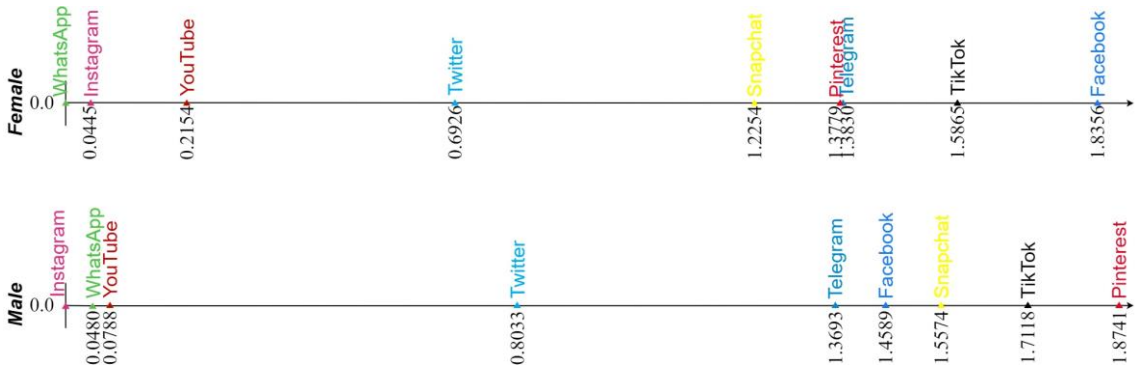

Figure 2. Presentation of scale values regarding the stimulants on a numerical axis for gender

5. Discussion

In this research social media tools preferred by higher education students for educational purposes are listed respectively as Instagram, WhatsApp, YouTube, Twitter, Snapchat, Telegram, Pinterest, Facebook/FB Messenger and TikTok. Also, the preferences of female and male higher education students upon social media tools for educational purposes are examined. According to this for female students it is listed respectively as WhatsApp, Instagram, YouTube, Twitter, Snapchat, Pinterest, Telegram, TikTok and Facebook/FB Messenger; and for male students, it is listed respectively as Instagram, WhatsApp, YouTube, Twitter, Telegram, Facebook/FB Messenger, Snapchat, and Pinterest.

It is found in the research that Instagram is the first preference of higher education students. Instagram is the favourite platform for 49.2% of people living in Turkey and they spend 20.2 hours on Instagram every month (Kemp, 2022b). This research also

shows that students often apply to Instagram for educational activities. However, experimental studies both in Turkey and different countries upon the use of Instagram for educational purposes (source of the studies mentioned in the introduction part shall be added) are limited. Thus, experimental, and descriptive research on how Instagram can make contribution both in the classroom and out of the classroom are needed. First of all, determining the ways students get education from Instagram and strengthening these fields are significant.

WhatsApp is the second social media preference of Higher education students for educational purposes. Studies (Abdullah, 2022; Çetinkaya, 2017; Coleman & O'Connor, 2019; Fauzan et al., 2022; Klein et al., 2018; Pimmer et al., 2019; Yilmazsoy et al., 2020; Zan, 2019) often emphasize its positive features about its use for educational purposes. In a study, Y generation determined that they use WhatsApp for socializing (public interaction), for its being free of charge and practical, for multimedia, professional needs, and fun (Göncü, 2018). In an experimental study, it is found that supporting the lesson with WhatsApp increases academic success (Şen Yaman, 2016). Pre-service teachers have expressed that they use WhatsApp mostly for sharing information, news exchange, gaining time, increasing communication and cooperation; and as it creates group consciousness (Akgün, 2021). WhatsApp groups are perceived more negatively by teachers when compared to students (Zan, 2019). Therefore, it is thought that WhatsApp groups need to organize teacher-student interaction and they may need to have some rules which must be obeyed at a minimum level.

YouTube is the third social media preference of higher education students for educational purposes. The use of YouTube for educational purposes is inevitable as it provides educational content to its users in lots of fields. YouTube is used for information transfer via video more than being a social media tool. Also, YouTube can be integrated to LMSs; and it is thought that this feature provides a big advantage to it. Also, it is frequently used in asynchronous distance education, and flip-learning technology-supported education applications. A study shows that users see YouTube as a learning tool, they rely on the information provided in the contents and they consciously prefer videos they will watch, and they share them with friends (İlhan & Görgülü Aydoğdu, 2019).

Twitter ranks number four in use for educational purposes. It is seen that in studies Twitter's "motivating" aspect is underlined (Everson et al., 2013; Junco et al., 2013; Kunka, 2020; Tang & Hew, 2017). There are not any studies in Turkey upon giving education directly over Twitter or its use in the classroom. Therefore, it is thought that students use Twitter mainly for motivation for educational purposes. However more researches are needed to be made about the relation between Twitter and education from the viewpoint of students.

Snapchat ranks number five for higher education students in use for educational purposes. When it is thought that there are limited researches about the use of Snapchat in education (Fenn & Reilly, 2020; Khan & Carroll, 2017), it is apparent that we need to make more researches upon this subject. Carrying out more experimental studies, especially upon the use of videos disappearing in a short time in education can be beneficial.

Telegram is the sixth choice of university students to use social media platform for educational purposes. Although it has many educational features, telegram is still not very

popular. However, as can be seen from studies (Aladsani, 2021; Iqbal et al., 2020), its use for educational purposes is increasing (Br Depari et al., 2022; Wiranegara & Hairi, 2020). Experimental studies with LMS integration are needed, especially thanks to the advantages provided by APIs (Conde et al., 2021).

Pinterest, Facebook/Facebook Messenger and TikTok are the last preferences of the students when using for educational purposes. Pinterest is mostly used by educators (Carpenter et al., 2018), using Pinterest is not very common in Turkey (Kemp, 2022b). Facebook/Facebook Messenger is one of the social media tools which is rarely preferred by higher education students in Turkey and around the world (Aktaş et al., 2019; Griffiths & Kuss, 2017). Most of the higher education students do not have Facebook account; and due to this they prefer Facebook less. Although TikTok is the second tool on which higher education students spend time, it is thought that it is used for fun.

Higher education students' uppermost social media preference changes according to gender. Females prefer WhatsApp in the first rank, but males prefer Instagram. Due to this more studies are needed to be made to explain how WhatsApp and Instagram are used by females and males; and how gender makes difference in this subject. Another difference which draws attention to social media grading according to gender is that males prefer them for educational purposes at rather top ranks when compared to females. Even though Facebook does not show a rising trend among higher education students, it has been put forward in research that male students use Facebook more than female students (Aktaş et al., 2019). It seems that depending on the use male students may prefer Facebook for educational purposes.

6. Conclusion

As a conclusion, the findings of the research show that mostly used social media tools are also used for educational purposes. The most significant exception in this subject is TikTok. Although TikTok is popular, it is not preferred for educational purposes. When the results of the research are analysed, it is seen that integration of Instagram to education, arranging student-teacher interaction in WhatsApp groups and outlining syllabuses which are planned to get YouTube to support the lessons are needed. Also, qualitative data regarding how and through which ways female and male students use all of these tools in education is needed.

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