Perceptions of Social Networks Impact on Countering Violent Extremism Among University Students

تصورات تأثير شبكات التواصل الاجتماعي على مكافحة التطرف العنيف بين طلاب الجامعة

محمد حسام الحمصي

قسم اللغة الإنجليزية والترجمة، كلية العلوم والدراسات النظرية، الجامعة السعودية الإلكترونية، المملكة العربية السعودية

Mohammad Husam Alhumsi

Department of English Language and Translation, College of Science and Theoretical Studies, Saudi Electronic University, Kingdom of Saudi Arabia.

Abstract

This study aims to investigate the perceptions of Saudi students at the Saudi Electronic University regarding the impacts of social networks on countering violent extremism and their relationship with variables such as gender, academic year, and type of college. The sample for this study comprised 110 male and female students at the Saudi Electronic University. To collect data, a cross-sectional questionnaire was used and distributed to the research participants. Descriptive statistics, an independent sample t-test, and one-way analysis of variance (ANOVA) were employed to analyze the data. This research revealed that social networks, including platforms like Facebook, Twitter, YouTube, and others, encompass thoughts and beliefs that highlight positive impacts on countering violent extremism. However, they also include misleading thoughts and beliefs that emphasize negative impacts, promoting violent extremism. This implies the efficient role social networks play in the life of individuals. Moreover, the findings revealed that there were no statistically significant differences among Saudi Electronic University students in their perceptions of the impact of social networks on countering violent extremism, based on the variables of academic year, type of college, and gender. Given the rapid growth of technology as well as the acceleration of online activities, the study recommends increasing community awareness on how to Safeguard against Social networks.

المستخلص

تهدفُ هذه الدراسة إلى استطلاع آراء وتصورات الطلبة السُّعوديين في الجامعة السُّعودية الإلكترونيةِ عن تأثير الشبكات الاجتماعية في مكافحة التطرف وعلاقة هذه التصورات بمتغيرات: الجنس والعام الدراسي ونوع الكلية. وقد تضمنت عينة الدراسة 110 من الطلبة الذكور والإناث الجامعيين الذين يدرسون في الجامعة السعودية الإلكترونية. وأما عملية جمع البيانات، فقد تم استخدام استبيان مقطعي وتوزيعه على المشاركين في الدراسة. كما تم استخدام الإحصاء الوصفي واختبار (تي) للمجموعات المستقلة وتحليل التباين أحادي الاتجاه (أنوفا). ولقد اظهرت نتائج الدراسة أن شبكات التواصل الاجتماعي، مثل فيسبوك وتويتر ويوتيوب وغيرها، تحتوي على أفكار ومعتقدات ذات تأثيرات إيجابية في مكافحة التطرف العنيف. وهي بدورها تعزز الآثار السلبية التي من شأنها العمل على ترويج التطرف العنيف. وهذه النتيجة تعكس الدور الفعَّال الذي تؤديه الشبكات الاجتماعية في التأثير على حياة الأفراد. وفي نهاية البحث، وفي ضوء النمو السريع للتكنولوجيا وكذلك الأنشطة المتزايدة عبر الإنترنت توصي الدراسة بشدة بزيادة وعي الطلاب بأساليب الوقاية من التطرف على مواقع التواصل الاجتماعي.

1. Introduction

Recent technological developments have ushered in radical changes, creating a rapid spread of technological revolution globally (Binder & Kenyon, 2022). This transformation is attributed to the internet and media, which have effectively bridged distances. The internet serves not only as a platform for information exchange but also plays a significant role in addressing various social, political, scientific, economic, and cultural issues. In this respect, the role of media has come under scrutiny, particularly concerning its promotion of radicalization and portrayal of extremist perspectives, often depicting their actions within the context of terrorist violence (Archetti, 2015; Stevens & Neumann, 2009).

Many countries around the globe have faced the threat of terrorism due to the phenomenon of violent extremism. In response, the United Nations and its affiliated organizations, such as the United Nations Educational, Scientific, and Cultural Organization (UNESCO), have implemented a series of laws and measures aimed at safeguarding the youth and preventing their susceptibility to this threat (Steven, Locke, & Rüttinger, 2019). Furthermore, Ambrozik (2019) and Patel and Koushik (2017) emphasized the occurrence of violent attacks carried out by specific groups and individuals commonly referred to as extremists in numerous countries. They further highlighted that violent extremism is now widely recognized as a significant threat to global progress and peace.

In previous years, Saudi Arabia has experienced multiple incidents of violent terrorism, particularly in Riyadh and Khobar. For example, in Riyadh, three residential compounds were attacked by al-Qaeda members in 2003, resulting in the loss of 27 lives (Casptack, 2015). In response, Saudi Arabia has launched a widespread counterterrorism campaign, adopting unconventional approaches to combat the ideological and intellectual justifications for extreme violence. This strategy involves three integrated programs, focusing on rehabilitation, post-release care, and prevention (Boucek, 2008).

Notably, countries such as Malaysia, Egypt, Yemen, Indonesia, Jordan, Algeria, and Singapore have developed engagement and rehabilitation programs, reflecting an increased global awareness of Saudi Arabia's efforts in combating violent extremism (Boucek, 2008).

Limited research has been conducted on the role of social media in addressing violent extremism (Amit, Barua & Kafy, 2021). Hence, this study aims to investigate the perspectives of Saudi students at the Saudi Electronic University regarding the impact of social networks on countering violent extremism. This research holds significant importance as it can contribute to safeguarding the youth from being influenced by views, ideas, or activities related to terrorist groups and violent extremists. Thus, students' perceptions serve as indicators of their preference for specific content on social media networks, and the degree of variation based on research variables draws attention to those who are the most affected. This enables a primary assessment of their need for counseling services.

2. Literature Review
2. 1 Violent Extremism

The term "violent extremism" is currently used to describe destructive activities and the incitement or endorsement of such malicious actions carried out by individuals or specific groups, either directly or indirectly, under the guise of extreme religious or political ideologies (Cleveland et al., 2020). Thiessen (2019) emphasizes that violent extremism is widely acknowledged as one of the most severe

threats to both national and international peace and progress.

In Europe, particularly in 2015 and 2016, this obstructive phenomenon gained significant attention, leading to a series of terrorist acts such as gun attacks and suicide bombings in Munich, Bastille, Brussels, and Paris (Macnair & Frank, 2017; Patel & Koushik, 2017).

It is crucial to note that extremists have recently turned to social networking sites, including YouTube, Twitter, and Facebook, for activities related to violent extremism. These platforms have been utilized for recruitment and propaganda (Waldman & Verga, 2016). Through the use of social media, extremists recruit individuals, showcase their content, and launch terror attacks in various regions of the globe (Gielen, 2017). In addition, social networks are used for deceptive purposes, attracting new fighters, providing financing and logistical services, as well as spreading propaganda and piracy online. For example, instances have been identified in countries like the United Kingdom, Russia, Spain, and the United States where extremists used social media and the internet at large to facilitate acts of violence (Fernandez et al., 2018; Amit et al., 2021).

It is crucial to note that in Sri Lanka, the individuals responsible for the 2019 Easter suicide bombings planned their attacks and communicated through online social media (Weine & Kansal, 2019). This highlights how extremist groups exploit social media and the internet to carry out illegal and violent actions. The number of social media and internet users is rapidly increasing; the Global Digital 2019 Report indicates that there are currently 4.39 billion people using the internet and 3.48 billion people using social media worldwide (Idris, 2019). This underscores that extremist groups realize the benefits of social media and the internet in spreading their ideologies and agendas to different parts of the world.

It is noteworthy that the accelerated increase of violent extremism has a negative impact on various sectors, including politicians, educators, intellectuals, psychologists, and sociologists-all working towards preserving safety, stability, and peace worldwide, fostering, flourishing and developing societies. Nevertheless, if panic spreads among individuals due to a particular threat, they will not be able to think or behave steadily (Gunaratna & Ali 2015). Thus, the devastating consequences of violent extremism, such as decreased production rates and a severe threat to people, greatly affect their families and societies (Alajmi, 2021).

2. 2 Signs and Factors Related to Violent Extremism

Various signals illuminate the mechanisms through which violent extremism operates and how terrorism influence youths; initial signs manifest among certain young individuals (UNESCO, 2016). Additionally, frequent engagement with online platforms promoting violent extremism and the adoption of conspiracy theories are considered concerning signals related to this issue (Alajmi, 2021).

It is crucial to note that factors causing violent extremism providing moral support to terrorist and extremist groups, relocating to conflict zones, exploiting conspiratorial issues to manipulate others with false information, and stockpiling weapons (Kurzman, Kamal & Yazdiha, 2017).

Several factors draw the attention of young individuals towards engaging in terrorist actions and violent extremism (UNESCO, 2016). According to UNESCO (2016), these factors include inequality, limited opportunities, neglect, denial of freedom and civil rights, discrimination, and persecution. The

causes of terrorism and violent extremism encompass political, educational, economic, social, and cultural factors (Alajmi, 2021). They can be summed up as follows:

1. Political factors: Among the most common reasons influencing young generations and prompting violent extremism are political factors, which may lead individuals to join extremist groups. These factors include the denial of political rights and civil freedoms, the government's inability to provide security, government support for terrorist organizations, and increasing corruption (Alajmi, 2021; Choi, 2016).

2. Educational factors: These factors involve the low quality of education. The absence of accessible pathways to quality education for young individuals is a primary contributor to the rise of terrorism and violent extremism in societies. For example, Martin-Rayo (2011) argued that the quality of education plays a crucial role in the radicalization processes of young people. Inadequate education makes individuals more susceptible to extremist groups' ideological influence, increasing the likelihood of considering violence in negative ways.

3. Economic factors: Deteriorating economic circumstances drive young individuals towards violent extremism (Alajmi, 2021). Economic issues such as poverty, unemployment, and financial corruption in organizations and institutions within a society contribute to youth involvement in violent extremism (Alajmi, 2021; Stephens, Sieckelinck & Boutellier, 2021; Viana & da Silva, 2021).

4. Social and cultural reasons: Various social and cultural factors can encourage terrorism and extremism. For instance, the FBI focus-

es on some of these factors to prevent violent extremism in schools (Viana & da Silva, 2021). Other factors include the influence of civil society institutions, disrespect for others' values and beliefs, feelings of marginalization, social inequality, and isolation among different social categories in a society (Alajmi, 2021).

2. 3 The Effect of Social Networks and Internet on Violent Extremism

This section delves into studies examining the influence of the internet on violent extremism. According to Amit, Barua, and Kafy (2021), a significant concern in recent times has been the widespread dissemination of violent extremism and radicalization on the internet by extremist individuals, utilizing various social media platforms. The researchers further emphasized that the internet provides easy accessibility to a vast number of individuals, enabling the delivery of content and communication through popular social media applications such as WhatsApp, Twitter, Facebook, YouTube, and other similar platforms. Alava, Frau-Meigs, and Hassan (2017) support these findings, citing a UNESCO research that reveals similar results: various social media channels have been employed for the dissemination of violent content, establishing interactive platforms, providing incorrect information, encouraging dialogue between two or more individuals, and initiating offline connections with different individuals for the purpose of recruitment.

In the same vein, Amit et al. (2021) stressed that addressing violent extremism online encompasses a broad and diverse field of interest. This area likely involves various program groups that can be distributed across multiple typologies, addressing several features simultaneously. Furthermore, Hussain and Saltman (2014) noted that online programs for coun-

tering violent extremism can typically be categorized into two types: positive and negative. Positive procedures involve strategies aimed at "challenging extremist narratives and propaganda by producing counter-content." Conversely, negative procedures encompass strategies used to "block, filter, take down, or censor extremist content" (Amit et al., 2021, p. 4). In summary, there is a scarcity of empirical studies addressing online violent extremism (Amit et al., 2021; Khalil, 2021). Therefore, this study aims to examine the perceptions of Saudi students at Saudi Electronic University regarding the influence of social networks in countering violent extremism.

The research questians addressed in this study are as follows:

1. What are the perceptions of Saudi students regarding the impact of social networks on countering violent extremism?

2. Are there significant differences in Saudi students' perceptions of the impact of social networks on countering violent extremism based on their academic year, type of college, and gender?

3. Methodology

This Cross Sectional research adopted a quantitative method for collecting and analyzing data. Creswell (2012) asserts that collecting and analyzing numeric data systematically and statistically is a key aspect of the quantitative approach. In this study, a cross-sectional questionnaire was administered to investigate the perceptions of Saudi students at Saudi Electronic University regarding the impact of social networks on countering violent extremism. The questionnaire items were adapted from Alajmi's (2021) study, with careful consideration of the wording in both the current and reference studies. The researcher selected questionnaire items that were relevant and closely aligned with the research objectives. Furthermore, the items were arranged to allow all participants to freely and appropriately respond to the questionnaire survey. Ethical approval for this research was obtained from the ethical committee at Saudi Electronic University, and permission to collect data from the respondents was granted. The data collection process took place during the first semester of the academic year 2022/2023.

Upon the completion of the questionnaire, the data was collected and analyzed using IBM SPSS Statistics V22.0. To address the research questions, specific statistical tests, such as independent sample t-test, and one-way analysis of variance (ANOVA), were utilized for data analysis.

The total population for this research comprised 156 university students from SEU proficient in English, as the research tool was presented in English . According to Sample Size Determination Using Krejcie and Morgan's (1974) Table, the sample size was determined to be 110 students. Therefore, to explore the perceptions of Saudi students at Saudi Electronic University regarding the impact of social networks on countering violent extremism, 110 undergraduate students (71 males and 39 females) were invited to participate in this research. It is important to note that convenience sampling was employed for Saudi undergraduate students at Saudi Electronic University.

The involved students spanned academic levels from (3 and 4) to (7 and 8) and represented four different types of colleges. Specifically, 38 were enrolled in the College of Administration and Financial Sciences, 26 in the College of Computing and Informatics, 20 in the College of Health Sciences, and 26 in the College of Science and Theoretical Studies. Regarding their occupational status, 57 were studying and working, while 53 were considered full-time

Table 1- Demographic characteristics of the participants.

Item	N	Mean	SD	Percentage
Gender				
Male	71	40.15	11.97	64.5%
Female	39	39.28	11.72	35.5%
Total	110			100%
Type of College				
Administration and Financial Sciences	38	37.39	13.56	34.6%
Computing and Informatics	26	40.42	11.04	23.6%
Health Sciences	20	41.40	8.00	18.2%
Science and Theoretical Studies	26	41.65	12.37	23.6%
Total	110			100%
Student's Academic Year	60	40.13	11.92	54.6%
Freshman (levels 3&4)				
Junior (levels 5&6)	25	37.76	13.11	22.7%
Senior (levels 7&8)	25	41.24	10.40	22.7%
Total	110			100%
Occupational Status				
Working	57	40.25	11.94	51.8%
Full-time student	53	39.42	11.82	48.2%
Total	110			100%

students. Table 1 illustrates the participants' demographic characteristics.

Regarding the research instrument and procedure, a cross-sectional questionnaire comprising 12 Likert Scale items was utilized. Seven items in the survey highlight positive impacts, addressing statements related to combating violent extremism. For example, item 3 notes the existence of specific pages on social networks that promote methods against violent extremism and hatred. Conversely, five items focus on negative impacts associated with statements addressing the endorsement of violent extremism. For instance, item 11 highlights that social networks addressing violent extremism contribute to the promotion of moral deterioration. For data analysis, IBM SPSS Statistics V22.0 was employed. The survey included demographic information such as students' academic year, type of college, occupational status, and gender. Participants took approximately ten minutes to complete the questionnaire via email. Notably, the Cronbach Alpha Coefficient for the entire survey was 0.918, indicating a good result for reliability calculation.

To ensure content validity, the research instrument, namely the survey, underwent evaluation by a panel of experts from the Department of Electronic Media at Saudi Electronic University. Their role was to examine and assess the validity of the survey questions, ensuring their accuracy, suitability, and alignment with the objectives of the current research.

The experts were tasked with determining whether the items were well-constructed and measured what this paper intended to investigate. They used a scale from 1 to 5 to assess the appropriateness of each item in the questionnaire and were given the option to suggest necessary changes to the entire survey. Based on their feedback, the researcher made the required amendments and additions. For instance, they recommended including the purpose of the study on the cover page of the questionnaire. It's worth noting that Table 2 illustrates the inter-item correlations of the questionnaire.

Table 2- Questionnaire's Inter-Item Correlations

Items of the questionnaire		Inter-Item Correlations	Valid
1	I believe social networks develop my skills of communication, dia-logue, and accepting different opinions of others.	0.784*	√
2	I believe that social networks increase awareness of the dangers of extremism among people.	0.725*	√
3	There are specific pages in social networks that include ways and meth-ods against extremism and hatred.	0.786*	√
4	I believe social networks teach human rights and spread a culture of peace, love, and tolerance among people.	0.580*	√
5	I think specific pages in social networks spread hate speech.	0.760*	√
6	I think specific pages in social networks spread extremist ideology.	0.761*	√
7	I believe specific pages in social networks spread false beliefs related to religions.	0.763*	√
8	I believe that social networks combat the spread of misleading articles.	0.686*	√
9	I believe that social networks contribute to the dissemination of fatwas and misleading articles.	0.660*	√
10	I think extremism is a narrow-minded thought and leads to ignorance.	0.768*	√
11	I believe social networks encouraging extremism contribute to the pro-motion of moral deterioration.	0.588*	√
12	I think technology has a big role in fighting extremism.	0.765*	√

* Significant at α=0.05

To validate the content of the survey tool and establish the correlation between the scores of individual survey items and the total score, an inter-item correlation test utilizing Pearson Correlation Coefficient analysis was conducted. As shown in Table 2, a positive and high correlation between the statements (items of the questionnaire) and the total survey score has been observed. This suggests that the survey instrument used in this paper demonstrates internal validity.

4. Findings

4.1 Students' Perceptions of the Impact of Social Networks on Countering Violent Extremism

A cross-sectional questionnaire was utilized for data collection. Descriptive statistics, including means and standard deviations for the questionnaire items, are presented in Table 3.

The results indicate that the mean scores of the participants ranged between 3.07 and 4.02 (out of 5). Most respondents expressed relative agreement that social networks have both positive effects on countering violent extremism and negative effects on promoting it. Specifically, items 1, 2, 3, 4, 8, 10, and 12 highlighted positive impacts when statements were associated with fighting violent extremism. Conversely, items 5, 6, 7, 9, and 11 emphasized negative impacts when statements were related to promoting violent extremism.

Delving into the positive effects on countering violent extremism, evidence suggests the significant role of technology, particularly social networks. This influence manifests in the enhancement of communication skills, fostering respect for diverse viewpoints, and raising awareness. For instance, item 1 (M=3.31; SD=1.47) signifies that most respondents agreed that social networks develop their skills of

Table 3- Saudi students' perceptions of the impact of social networks on countering violent extremism

	Items	Mean	SD	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total
1	I believe social networks develop my skills of communication, dialogue, and accepting different opinions of others.	3.31	1.47	21 19.1%	10 9.1%	26 23.6%	20 18.2%	33 30%	110 100%
2	I believe that social networks increase the awareness of the dangers of extremism among people.	3.29	1.41	16 14.5%	18 16.4%	26 23.6%	18 16.4%	32 29.1%	110 100%
3	There are specific pages in social networks that include ways and methods against extremism and hatred.	3.19	1.35	16 14.5%	16 14.5%	36 32.9%	15 13.6%	27 24.5%	110 100%
4	I believe social networks teach human rights and spread a culture of peace, love, and tolerance among people.	3.13	1.36	18 16.4%	18 16.4%	29 26.4%	22 20%	23 20.8%	110 100%
5	I think specific pages in social networks spread hate speech.	3.54	1.33	12 11%	13 11.8%	23 20.8%	28 25.5%	34 30.9%	110 100%
6	I think specific pages in social networks spread extremist ideology.	3.46	1.35	15 13.6%	11 10%	22 20%	32 29.1%	30 27.3%	110 100%
7	I believe specific pages in social networks spread false beliefs related to religions.	3.63	1.42	14 12.7%	10 9.1%	24 21.8%	17 15.5%	45 40.9%	110 100%
8	I believe that social networks combat the spread of misleading articles.	3.12	1.26	16 14.5%	16 14.5%	34 30.9%	27 24.5%	17 15.6%	110 100%
9	I believe that social networks contribute to the dissemination of fatwas and misleading articles.	3.07	1.25	16 14.5%	16 14.5%	40 36.4%	20 18.2%	18 16.4%	110 100%
10	I think extremism is a narrow-minded thought and leads to ignorance.	3.56	1.44	15 13.6%	11 10%	25 22.7%	15 13.6%	44 40.1%	110 100%
11	I believe social networks encouraging extremism contribute to the promotion of moral deterioration.	4.08	1.12	8 7.3%	2 1.8%	18 16.4%	34 30.9%	48 43.6%	110 100%
12	I think technology has a big role in fighting extremism.	3.56	1.42	15 13.6%	10 9.1%	25 22.7%	18 16.4%	42 38.2%	110 100%

communication, dialogue, and acceptance of different opinions. Item 12 (M=3.56; SD=1.42) indicates that most participants thought that technology plays a significant role in fighting extremism. Item 2 (M=3.29; SD=1.41) shows that most respondents believed that social networks increase awareness of the dangers of extremism among people. To elaborate further on item 2, item 3 (M=3.19; SD=1.35) suggests that most participants agreed that specific pages on social networks include ways and methods against extremism and hatred. Additionally, item 4 (M=3.13; SD=1.36) indicates that most

respondents believed that social networks teach human rights and spread a culture of peace, love, and tolerance among people. Regarding misleading thoughts, responses to item 8 (M= 3.12; SD=1.26) show that most respondents believed that social networks combat the spread of misleading articles. Furthermore, item 10 (M=3.56; SD=1.44) indicates that the majority of participants agreed that extremism is a narrow-minded thought and leads to ignorance.

Regarding the other items focusing on the negative impact encouraging extremism, item 5 (M=3.54; SD=1.33) indicates that most participants believed that specific pages in social networks spread hate speech. Similarly, item 6 (M=3.46; SD=1.35) signifies that most participants also believed that specific pages in social networks spread extremist ideology. In terms of misleading beliefs, item 7 (M=3.63; SD=1.42) highlights this issue and indicates that the majority of respondents agreed that there are specific pages in social networks spreading false beliefs related to religions. Additionally, item 9 (M=3.07; SD=1.25) shows that most participants believed that social networks contribute to the dissemination of fatwas and misleading articles.

Finally, it is crucial to note a significant consensus concerning item 11 (M=4.08; SD=1.12), indicating that a large number of participants agreed that social networks encouraging extremism contribute to the promotion of moral deterioration. It is noteworthy that the aim of items (5, 6, 7, 9, and 11) was to ensure that participants are aware of both the positive and negative aspects of technology represented by social networks; this approach prevents participants from choosing their answers randomly.

4. 2 Differences Among Saudi Students' Perceptions of the Impact of Social Networks on Countering Violent Extremism

To address this specific question, t-test analysis for gender, as well as one-way ANOVA analysis for academic year and type of college, were conducted to determine whether significant differences exist among these variables. Table 4 illustrates the impact of gender on Saudi students' perceptions of the impact of social networks on countering violent extremism.

To examine this factor, an independent sample t-test was conducted. The findings of the t-test did not show any significant differences between the perceptions of male and female Saudi students. In this instance, gender does not seem to have a noticeable effect on Saudi students' perceptions, as the analysis recorded an insignificant p-value (p= 0.71). From Table 4, the mean score for male (M=40.15) and female (M= 39.28) perceptions suggests that all responses are influenced more by male participants than female participants regarding the impact of social networks on countering violent extremism.

To determine if there is a significant difference among Saudi students' perceptions of the impact of social networks on countering violent extremism

Table 4- The effect of gender on students' perceptions of the impact of social networks on countering violent extremism using an independent sample t-test.

Dependent Variable	Gender	N	Mean	SD	T	P
Saudi students' perceptions of the impact of social networks on countering extremism	Male	71	40.15	11.97	0.36	0.71
	Female	39	39.28	11.72		

*p < 0.05

based on their academic year, a One-way analysis of Variance (ANOVA) was conducted. Table 5 illustrates the findings of the ANOVA analysis regarding Saudi students' perceptions of the impact of social networks on countering violent extremism in relation to their academic years. Table 5 shows no significant difference among Saudi students' perceptions of the impact of social networks on countering violent extremism based on their academic years, as the p-value is 0.56. In addition, the highest mean score (M=41.24) indicates that the responses provided by senior students are the most influenced among other categories.

Concerning the relationship between Saudi students' perceptions and their respective colleges, Table 6 demonstrates the One-way ANOVA findings. The insignificant p-value (p=0.45) suggests no significant relationship between Saudi students' perceptions of the impact of social networks on countering violent extremism and their respective

colleges. For this variable, the mean scores indicate that Saudi students' perceptions were very close.

Additionally, the highest mean score (M=41.65) implies that the perceptions of students at the college of Science and Theoretical Studies are the most influenced compared to other colleges, whereas the lowest mean score (M=37.39) belongs to students' perceptions from the college of Administrative and Financial Sciences regarding the impact of social networks on countering violent extremism.

In summary, both the independent sample t-test and the One-Way ANOVA indicate that there is no statistically significant difference in the mean score of "Saudi students' perceptions of the impact of social networks on countering violent extremism" concerning their academic year, type of college, and gender. These findings suggest that Saudi students' perceptions are not influenced by the mentioned variables.

Table 5- One-way ANOVA for Saudi students' perceptions and their academic years

Dependent Variable	Academic Year	N	Mean	SD	F	P
Saudi students' perceptions of the impact of social networks on countering violent extremism	Freshman	60	40.13	11.92	0.574	0.56
	Junior	25	37.76	13.11		
	Senior	25	41.24	10.40		
	Total	110	39.85	11.84		

p < 0.05*

Table 6- One-way ANOVA for Saudi students' perceptions and their related colleges

Dependent Variable	Type of College	N	Mean	SD	F	P
Saudi students' perceptions of the impact of social networks on countering violent extremism	Administrative and Financial Sciences	38	37.39	13.56		
	Computing and Informatics	26	40.42	11.04		
	Health Sciences	20	41.40	8.00	0.877	0.45
	Science and Theoretical Studies	26	41.65	12.37		
	Total	110	39.85	11.84		

p < 0.05*

5. Discussion

The primary objective of this paper was to explore Saudi students' perceptions of the impact of social networks on countering violent extremism, while also examining potential influences from academic year, type of college, and gender. The first research question addressed both positive and negative impacts related to the issue of combating extremism.

With reference to the positive aspect, items 1, 2, 3, 4, 8, 10, and 12 focused on positive effects associated with countering extremism. The findings revealed that Saudi students at Saudi Electronic University significantly recognize the role of technology, represented by social networks, in countering extremism. The items 1, 2, 3, 8, and 12 emphasized the impact of platforms like YouTube, Facebook, Twitter, and others in developing communication skills, embracing diverse perspectives, and raising awareness. This aligns with studies conducted by Alajmi (2021), Al-Sudairy (2014), and Siddiqui and Singh (2016).

For instance, Morris (2016, p. 511) highlighted that offering a contrary point of view is often more effective in changing opinions than removing offensive content. The emphasized the importance of increasing public awareness to address the issue (p. 511). This underscores the positive role technology plays in fostering awareness and embracing diverse viewpoints across various online social platforms.

Furthermore, item 4 emphasized the cultivation of a culture of pace, love, and tolerance among individuals through social networks. This resonates with the research conducted by Arain, Iqbal, and Chacher (2021). Regarding combating the spread of misleading articles via social networks (item 8), Nunziato (2020) investigated the role of social media in fighting misinformation and disinformation

in the online marketplace of ideas and concluded that social media companies have been generally inspired by the freedom of speech values protected by the First Amendment to protect a vibrant marketplace of ideas online (p. 98). Denoeux and Carter (2009, as cited in Amit et al., 2021) stressed the importance of removing extremist content from the worldwide web. Amit et al. (2021) argued for the integration of efficient and innovative technologies in countering violent extremism.

Item 10 expresses the notion that extremism is a narrow-minded thought leading to ignorance. In a study conducted by Sarwar, Imran, and Yaseen (2020), the researchers asserted that extremists are ignorant and mindless individuals imbued with immense parochialism (p. 56).

On the flip side, items 5, 6, 7, 9, and 11 underscored the negative impact when statements were related to promoting violent extremism. The results obtained from these items revealed that Saudi students at Saudi Electronic University significantly acknowledge the second aspect, realizing the negative effects of technology, represented by social networks, in statements that encourage extremism. These findings align with the study conducted by Amit et al. (2021). For instance, item 5 accentuated the prevalence of hate speech, a result that concurs with Costello et al.'s (2020) study. Items 6, 7, 9, and 11 emphasized the spread of extremist ideologies and misleading articles. Item 6 specifically addressed the dissemination of extremist ideologies, aligning with Binder and Kenyon's (2022) study. Binder and Kenyon (2022, p. 3) confirmed that the internet "is an integral part of the propagation of extremist ideologies". With reference to item 9, Amit et al. (2021, p. 12) noted that "ordinary people are susceptible to manipulation by various misleading promotional materials or activities". Lastly, item 11

highlighted the promotion of moral deterioration disseminated by social networks encouraging extremism. To gain a useful understanding on recent trends in online extremist propaganda, it is important to note that "Google has created a network of eight think tanks worldwide to develop better ethics of content moderation" (Amit et al., 2021, p. 9).

It is noteworthy that the findings of the independent variables in this paper, namely gender, academic year, and type of college, did not reveal any statistically significant differences concerning their effects on the perceptions of Saudi university students.

The results indicated that there is no statistically significant difference in the perceptions of Saudi university students regarding the impact of social networks on countering violent extremism based on gender variable (f=0.36; p =0.71. This signifies that gender did not have influence on their perceptions, a result consistent with previous studies (Ahmad, Malik, & Batool, 2018; Alajmi, 2012; Al-Khataibeh, 2019). This can be attributed to the shared socio-economic status among most male and female students.

Concerning Saudi students' academic year, the demographic data showed that 54.6% of the respondents were freshmen (level 3&4). This suggests that the findings of the current study maybe influenced by this specific category. Interestingly, the results revealed no significant difference in the perceptions of Saudi university students of the impact of social networks on countering violent extremism based on the academic year variable (f=0.574; p =0.56). This observation aligns with the consensus among the majority of students at Saudi Electronic University, who share similar views on the influence of social networks in countering violent extremism. This finding is supported by a study conducted by Maqableh et al. (2015), where the researchers found no significant differences in the effect of social networks

usage on academic achievements in relation to academic level.

As for the students' type of college, the results showed that there is no significant difference in the perceptions of Saudi university students of the impact of social networks on countering violent extremism based on the type of college variable (f=0.877; p =0.45). It is worth noting that Al-Khataibeh's (2019) research aligns with this result, suggesting that students from different colleges share the same thoughts and views.

Thus, there were no statistically significant differences among Saudi university students' perceptions of the impact of social networks on countering violent extremism in terms of the variables, namely academic year, type of college, and gender. This could be attributed to the sociocultural background that the students share.

6. Conclusion and Recommendations

Various social networking sites and the internet play a significant role in the dissemination of information around the globe. Social networks can be viewed as a double-edged sword; encompassing both positive and negative effects. The latter may potentially lead susceptible individuals to engage in activities related to violent extremism. Existing literature highlights a lack of empirical studies addressing online violent extremism. Therefore, the purpose of this empirical study is to investigate the perceptions of Saudi students at Saudi Electronic University regarding the impact of social networks on countering violent extremism.

In conclusion, the results of this paper show that social networks, such as Facebook, Twitter, YouTube, and other social media sites, have both positive impacts on countering violent extremism and negative impacts on promoting it. Furthermore, the

findings reveal no statistically significant differences among Saudi university students' perceptions of the impact of social networks on countering violent extremism in relation to specific variables, namely academic year, type of college, and gender.

In light of the rapid growth of technology as well as the acceleration of online activities, it is highly recommended to increase community awareness regarding the negative effects and aspects of social networking sites. Establishing a connection between universities and positive social network activities, along with enhancing university students' awareness of the potential negative effects, is crucial. Further research could focus on exploring the specific and effective roles of individual social networking sites such as Facebook, Twitter, or YouTube in strengthening people's intellectual resilience against violent extremism.

Conflict of Interest

The author declares no conflict of interest.

Source of funding

The author received no financial support for the research, authorship or publication of this paper

Acknowledgements

The researcher would like to express his heartiest gratitude to the Scientific Research Deanship at the Saudi Electronic University.

References

Ahmad, S., Malik, M., & Batool, A. (2018). Perceptions of University Students about Causes of Terrorism. Bulletin of Education and Research, 40(3), 115-127.

Alajmi, M. (2021). The Role of the College of Education at Kuwait University in Countering Violent Extremism among Students. Journal of Social Studies Education Research, 12(3), 204-224.

Alava, S., Frau-Meigs, D., Hassan, G. (2017). Youth and Violent Extremism on Social media: Mapping the Research. UNESCO publishing.

Al-Khataibeh, Y. D. (2019). Social media-extremism ideas as an intellectual security threat: A case study of Jordanian university undergraduates. British Journal of Humanities & Social Sciences, 18(1), 34-47.

Al-Sudairy, T. (2014). Employing Social Media in Security Awareness Against Rumor Danger. Doctoral Dissertation, Naif Arab University for Security Sciences, KSA.

Ambrozik, C. (2019). Community stakeholder responses to countering violent extremism locally. Studies in Conflict & Terrorism, 42(12), 1044-1068.

Amit, S., Barua, L., & Kafy, A. A. (2021). Countering violent extremism using social media and preventing implementable strategies for Bangladesh. Heliyon, 7(5), e07121.

Arain, A. A., Iqbal, M. Z., & Chacher, Z. A. (2021). Exploring innovative teaching practices to promote peace and living together: Developing a model. Pakistan Journal of Society, Education and Language (PJSEL), 7(2), 368-377.

Archetti, C. (2015) Terrorism, Communication and New Media: Explaining Radicalization in the Digital Age. Perspectives on Terrorism, 9 (1), 49-59. https://www.jstor.org/stable/26297326

Binder, J. F., & Kenyon, J. (2022). Terrorism and the internet: How dangerous is online radicalization?. Frontiers in psychology, 6639. DOI: 10.3389/fpsyg.2022.997390

Boucek, C. (2008). Counter-terrorism from within: Assessing Saudi Arabia's religious rehabilitation and disengagement programme. The RUSI Journal, 153(6), 60–65.

Casptack, A. (2015). Deradicalization programs in Saudi Arabia: A case study. Middle East Institute, 10.

Choi, S. H. (2016). A teacher›s guide on the prevention of violent extremism. Retrieved April 4, 2023, from https://en.unesco.org/sites/default/files/lala_0.pdf

Cleveland, E., Glaeser, S., Jorgensen, L., Lewi, L. N., & Shropshire, A. (2020). Preventing and Countering Violent Extremism: Localization in Kenya, Kosovo, and the Philippines. In Workshop in Public Affairs.

Costello, M., Barrett-Fox, R., Bernatzky, C., Hawdon, J., & Mendes, K. (2020). Predictors of viewing online extremism among America's youth. Youth & Society, 52(5), 710-727.

Creswell, J. W. (2012). Qualitative inquiry & research design: Choosing among five approaches (4th ed.). Thousand Oaks, CA: Sage.

Denoeux, G., & Carter, L. (2009, February). Guide to the drivers of violent extremism. USAID.

Fernandez, M., Asif, M., & Alani, H. (2018, May). Understanding the roots of radicalization on twitter. In Proceedings of the 10th ACM conference on web science (pp. 1-10).

Gielen A. J. (2017). Evaluating countering violent extremism. In De-Radicalization: Scientific Insights for Policy, ed. L Colaert, pp. 101–18. Brussels: Flem. Peace Inst.

Gunaratna, R., & Ali, M. B. (Eds.). (2015). Terrorist rehabilitation: A new frontier in counter-terrorism V. 7. World Scientific.

Hussain, G., & Saltman, E. M. (2014). Jihad trending: A comprehensive analysis of online extremism and how to counter it. Quilliam.

Idris, I. (2019). "Preventing/Countering Violent Extremism Programming on Men, Women, Boys and Girls." GSDRC Applied Knowledge Services. https://gsdrc.org/publications/preventing-countering-violent-extremism-programming- onmen-women-boys-and-girls/

Khalil, L. (2021). GNET Survey on the Role of Technology in Violent Extremism and the State of Research Community–Tech Industry Engagement. Retrieved March 22, 2023, from https://www.lowyinstitute.org/sites/default/files/GNET-Report-Survey-On-The-Role-Of-Technology-In-Violent-Extremism.pdf

Kurzman, C., Kamal, A., & Yazdiha, H. (2017). Ideology and threat assessment: law enforcement evaluation of Muslim and right-wing extremism. Socius, 3, 2378023117704771.

Macnair, L., & Frank, R. (2017). Voices Against Extremism: A case study of a community-based CVE counter-narrative campaign. Journal for Deradicalization, (10), 147-174.

Maqableh, M., Rajab, L., Quteshat, W., Masa'deh, R. E. M. D. T., Khatib, T., & Karajeh, H. (2015). The impact of social media networks websites usage on students' academic performance. Communications and Network, 7(04), 159-171.

Martin-Rayo, F. (2011). Countering radicalization in refugee camps: How education can help defeat AQAP. The Dubai Initiative, Belfer Center for Science and International Affairs, Dubai School of Government (DSG) and the Harvard Kennedy School (HKS). https://www.belfercenter.org/sites/default/files/legacy/files/Countering_radicalization-Martin-Rayo.pdf.

Morris, E. (2016). Children: extremism and online radicalization. Journal of Children and Media, 10(4), 508-514.

Nunziato, D. C. (2020). Misinformation mayhem: Social media platforms' efforts to combat medical and political misinformation. First Amendment Law Review, 19, 32. https://scholarship.law.gwu.edu/faculty_publications/1502/

Patel, F. & Koushik, M. (2017). Countering Violent Extremism. Brennan Center for Justice at New York University School of Law.

Sarwar, G., Imran, M., & Yaseen, M. (2020). Stirring up of Extremism by Islamic Factions in Pakistan: An Analytical and Statistical Survey. Al Qalam, 25(1), 55-72.

Siddiqui, S., & Singh, T. (2016). Social Media its Impact with Positive and Negative Aspects. International Journal of Computer Applications Technology and Research, 5(2), 71-75.

Steven, D., Locke, R., & Rüttinger, L. (2019). Beyond 16: The Sigs and the Opportunity To Build A More Peaceful World. Driving Transformative Change, 26.

Stevens, T., & Neumann, P. R. (2009). Countering online radicalization: A strategy for action. International Centre for the Study of Radicalization and Political Violence (ICSR).

Stephens, W., Sieckelinck, S., & Boutellier, H. (2021). Preventing violent extremism: A review of the literature. Studies in Conflict & Terrorism, 44(4), 346-361.

Thiessen, C. (2019). Preventing Violent Extremism while Promoting Human Rights: Toward a Clarified UN Approach,» Issue Brief (New York: International Peace Institute, 2019).

United Nations Educational, Scientific and Cultural Organization (UNESCO). (2016). Global education monitoring report summary 2016: education for people and planet: creating sustainable futures for all.

Viana, M. T., & da Silva, P. P. D. S. (2021). Preventing extremisms, taming dissidence: Islamic radicalism and black extremism in the US making of CVE. Critical Studies on Terrorism, 14(1), 24-46.

Waldman, S., & Verga, S. (2016). Countering violent extremism on social media. Defence Research and Development Canada, 1, 1-28.

Weine, S., & Kansal, S. (2019). What should global mental health do about violent extremism?. Global Mental Health, 6, e14.