Article

The Perceived Impact of Social Networking Sites and Apps on the Social Capital of Saudi Postgraduate Students: A Case Study

Abdulelah A. Alghamdi [1,2,*] and Margaret Plunkett [3]

[1] Faculty of Education, Umm al-Qura University-Makkah, Makkah 24382-4752, Saudi Arabia
[2] Deanship of Scientific Research, Umm Al-Qura University, Makkah 24382-4752, Saudi Arabia
[3] School of Education, Federation University Australia, Victoria 3844, Australia; margaret.plunkett@federation.edu.au
[*] Correspondence: aaghamdi@uqu.edu.sa; Tel.: +966-500054997

Abstract: With the increased use of Social Networking Sites and Apps (SNSAs) in Saudi Arabia, it is important to consider the impact of this on the social lives of tertiary students, who are heavy users of such technology. A mixed methods study exploring the effect of SNSAs use on the social capital of Saudi postgraduate students was conducted using a multidimensional construct of social capital, which included the components of life satisfaction, social trust, civic participation, and political engagement. Data were collected through surveys and interviews involving 313 male and 293 female postgraduate students from Umm Al-Qura University (UQU) in Makkah. Findings show that male and female participants perceived SNSAs use impacting all components of social capital at a moderate and mainly positive level. Correlational analysis demonstrated medium to large positive correlations among components of social capital. Gender differences were not evident in the life satisfaction and social trust components; however, females reported more involvement with SNSAs for the purposes of political engagement while males reported more use for civic participation, which is an interesting finding, in light of the norms and traditional culture of Saudi society.

Keywords: social networking sites and apps; social capital; culture; postgraduate

1. Introduction

In 2016, Kemp noted a high rate of social media use in the Kingdom of Saudi Arabia (KSA). Today, Social Networking Sites and Apps (SNSAs) occupy a large part of Internet usage in the KSA, where more than half of the population of 31 million is under the age of 29 [1]. This suggests that a high proportion of users would be students. Increasing popularity of SNSAs has led to interest in the impact of these on the social lives of students, particularly females, who may face cultural social challenges within Saudi society. Studies within the KSA have found mixed results in relation to the perceived social impact of SNSAs use.

Al-Qarni [2] examined the effects of SNSAs use on undergraduate students' behaviors with 642 participants (358 males and 284 females). The results highlighted the positive impact of using SNSAs to support communication with friends and family as well as cultural participation. The negative impacts included spreading of insults and verbal abuse as well as crowding out the colloquial language. The results also indicated that females were more positive than their male counterparts about the social impact of SNSAs.

Al-Mohsen [3] also conducted a study to investigate the role of SNSAs in increasing political awareness with 486 (305 males, 181 females) undergraduate Saudi students. The results indicated that the level of political awareness for students who used SNSAs was low in most of the political awareness indexes, which was attributed to the low level of

political culture among students. The incitement for verbal violence and intolerance, as well as the instability of security in the region, were the issues most often discussed by students using SNSAs. Another study conducted by Al-Shehri [4] with 150 female Saudi university students found that expressing opinions freely, openly exchanging cultural and intellectual ideas, fostering old friendships, and searching for new friendships were the most important reasons for using SNSAs.

Al-Saud [5] study involving 470 male undergraduate students from King Saud University, found that 88% of participants spent up to two hours per day communicating with others and learning about the latest political news, events and occasions in the community, and these motivations to use SNSAs had a positive impact on students. Similarly, a study by Al-Tayyar [6], with 2274 male university students, found that being educated on local political news, learning about new ideas and expressing opinions candidly and openly with the opposite sex had a positive impact on students who used SNSAs.

Despite the increased popularity of SNSAs and their social impact on Saudi university students' lives, little research evaluates the role of these sites and apps in promoting social trust or civic and political participation. These areas of interest form part of the framework of social capital, which represents key markers of one's well-being and healthy civic life [7,8]. A positive association has been reported between the level of students' education and their civic and political participation [9,10]. A number of single gender studies [5,6] have provided interesting insights, but comparative studies, particularly at the postgraduate level, are relatively uncommon.

2. Literature Review

Generally, the basic idea of social capital can be depicted as the set of resources available for people via their interactions [11,12]. Huysman and Wulf [13] refer to social capital as a "network ties of goodwill, mutual support, shared norms, social trust, and a sense of mutual obligations that people can derive value from" [13]. These values work as a glue that holds together social accumulations from networks of individuals' relationships, societies, countries, or even entire nations [13].

The extension of social capital of individuals correlates positively with the size of networks and their diversity [14]. This correlation applies to extending the social capital of SNSAs users, particularly when they utilize these sites mainly to extend and maintain their social networks [15]. The research indicates that many individuals are using SNSAs to maintain relationships with friends and strengthen bonds with peers; these activities are at the core of the notion of social capital [16,17]. Furthermore, SNSAs complement rather than supplant the offline relationships of existing platforms, enabling active communication among users with their friends and more observation of content using the accumulated paths of social news [18].

The concept of social capital has been studied based on individuals' social networks [16,18,19]; however, Valenzuela et al. [15] added predicted effects of individuals' networks, which was a movement toward development of a comprehensive framework for the concept of social capital.

Valenzuela et al. [15] framework relies on Scheufele and Shah [20] perception of social capital, which suggests a virtual circle of three components: participation, trust, and life satisfaction. Through civic culture, life satisfaction and trust are "tightly bound together as a cluster of attitudes supporting mass participation and democratic governance" [20]. At the individual level of social capital, relationships among participation, trust, and life satisfaction have been observed [20], including strong reciprocal relationships among contentment with life, interpersonal trust, and civic engagement [21] and direct and indirect influences of life satisfaction on both interpersonal trust and civic engagement [22–24]. The following section outlines literature that has explored the relationship between SNSAs use and the components of Valenzuela et al.'s [15] framework, which includes life satisfaction, social trust, civic participation, and political engagement as components of students' social lives.

2.1. SNSAs Use in Relation to Students' Life Satisfaction

Life satisfaction has been defined as an intrapersonal feeling of well-being and a general evaluation of one's life in relation to self and current status [25]. In the online community, there appears to be a positive association between frequent online communication and social networks on the one hand, and an individual's life satisfaction on the other hand [26,27]. Furthermore, using SNSAs for sharing information and providing encouragement produces different findings associated with varying social support domains [28]. For example, Valkenburg, Peter, and Schouten [29] found that using SNSAs stimulated an increased number of connections with friends, which led to the reception of positive feedback, thereby, enhancing life satisfaction of the adolescent participants.

Similarly, the range of applications and tools on SNSAs can support different interactions, which positively influence life satisfaction and increasing use of SNSAs [28]. SNSAs appear to generate supportive emotions, such as enjoyment, which have been associated with life satisfaction [30]. In a USA study by Correa et al. [31], life satisfaction was found to be associated with the personality of individuals on SNSAs with two indicators: emotional stability and extraversion. They reported a strong positive correlation between being emotionally stable and extraverted, and life satisfaction. A high level of extraversion was correlated with a high level of using SNSAs, suggesting that frequent users who are extraverted and emotionally stable tend to be satisfied with their lives [31].

Ellison et al.'s [16] study with 286 undergraduate students at Michigan State University found that the intensity of using SNSAs, such as Facebook, correlated with a high life satisfaction and more social connections with friends. Similar outcomes were reported by Leimeister et al. [32] in relation to virtual communities conducted on social networking platforms. Valenzuela et al. [15] study of 2603 college students found that intensity of using SNSAs was associated positively with students' life satisfaction.

Previous studies have demonstrated a positive relationship between the use of SNSAs and students' life satisfaction while other research found this relationship could be reciprocal between their levels [16]. A German study by Krasnova et al. [33] suggests that feelings of envy through SNSAs use can impact negatively on the life satisfaction of individuals. Context is important and particularly pertinent to the Saudi context, where aspects such as trust and civic and political engagement have slightly different connotations.

2.2. SNSAs Use in Relation to Students' Social Trust

Trust has been defined as a positive emotional bias in decisions about others [34], or as a type of anticipation of behaviors of other people [35]. There appear to be two types of trust, which need to be identified: social trust or generalized trust, and particularistic trust or assurance [36]. Social trust is a predominant belief of trustworthiness as a natural aspect of human beings. Assurance is trust that emerges from secure relationships with specific people [37] and is established on secure feelings stemming from solid knowledge about a particular person [38]. In terms of social capital, social trust represents an essential component that forms the cooperative infrastructure of community [39].

In the context of SNSAs, online social relationships can help promote social trust and social capital [40,41]. Gilbert and Karahalios [42] suggest that the power of relationships of SNSAs users could be different, especially when online relationships are considered complementary to existing offline social relationships. Wu et al. [43] reported that social capital was influenced positively by social trust on SNSAs. Moreover, Himelboim et al. [44] found that social trust was associated positively with the perception of activities made possible via SNSAs, particularly in relation to communication. This indicates that social trust plays an important role in the online community, where power and relationships can be acquired through interpersonal interaction [43]. Social trust, therefore, appears to be an essential requirement in online communities where lack of direct contact increases the possibility of deception occurring [43].

With regard to forming trust among users, Hampton, Goulet, Rainie, and Purcell's [45] large USA study involving 2255 adults (including 975 SNSAs users), found that SNSAs users were 46% more trusting than the 27% who did not use the Internet. Likewise, in another USA study by Dwyer et al. [46], 117 college student users of Facebook expressed a high level of trust and were more willing to share interpersonal information. However, Manca and Ranieri [47] suggest that forming trust based on the limited information available on SNSAs leads to some difficulties in the process of trusting interpersonal interactions within the online environment. In a Jordanian study by Alzboon and Abu-Seileek [48], involving 1135 university students, SNSAs were found to have a positive influence on relationships between students through removing the psychological and social barriers among them. However, relationships could be negatively impacted through assertion of regional, tribal and ethnic intolerances. In conclusion, studies illustrate both types of potential impacts on developing social trust among students through the use of SNSAs, indicating a need for further research, particularly in non-Western regions.

2.3. SNSAs Use in Relation to Students' Civic Participation

While the term 'civic participation' has been interpreted in various ways [15], generally it refers to involvement in community and civic activities [26] and represents a key subset of the concept of social capital [49]. From this perspective, civic participation is considered a process that helps organize people to participate, share, and control civil affairs. This leads citizens to interact and engage in processes that provide positive outcomes for their community, which contributes to social capital [49]. Putnam [7], Putnam [39] used the term 'social capital' to illustrate the basic elements of civic life, such as social trust and networks, as indicators that provide the means for people to participate in facing community problems. This concept uses 'social capital' as a term to describe and explain effective civic participation [8].

In terms of using SNSAs, some studies have shown a significant correlation between individuals' use of SNSAs with respect to levels of life satisfaction and social trust, and civic participation based on the theory of social capital [15,16,50]. Other studies have discussed civic participation as an outcome of using SNSAs with specific gratifications [50,51]. Some studies have revealed that life satisfaction and social trust were positively associated with civic participation [15,16]. In a Texas study of 1715 college students conducted by Park et al. [52], the use of SNSAs correlated more strongly with civic action than recreational use. The results indicate that the students who sought to obtain information on SNSAs were more inclined to engage in civic activities offline, but this form of civic participation was also related to academic grades; this is reflected in the relationship between civic activities and academic pursuits in college life [52].

In a recent study conducted by Canon [53] in Algeria, the role of SNSAs in civic participation was explored by analyzing the content of Ness Elkhir's group on Facebook. Ness Elkhir was created in 2010 and refers to a group of committed people engaged in social actions and protection of the environment. Results indicated that SNSAs supported civic participation by encouraging voluntary work in the community, particularly among the younger generation.

In summary, previous studies support civic participation as an essential component of social capital, along with social trust and life satisfaction. In the online community, the Internet and SNSAs strongly influence civic participation because of the extensive information available and the building of networks, which increase positive social opportunities in individuals' lives. Further research on the forms of civic participation via SNSAs would help define the impact of using this technology in this regard.

2.4. SNSAs Use in Relation to Students' Political Engagement

Networks of social interaction are considered a primary resource for the transfer and exchange of political information, as experiences are shared among groups and individuals [16,54]. Through social interaction, political information can be received and shared, helping promote political knowledge, attitude formation and dispositions [10,55]. Social capital, in a political sense, refers to that which "is produced as the consequence of political expertise and information that is regularly communicated within an individual's network of social relations" [9].

Relationships between SNSAs and political engagement have been examined in the online space [10,15,16], with influences relating to involvement in campaigns, interest, and efficacy reported [56]. SNSAs have been used for participation in different political activities, such as obtaining political information, signing up for membership of a group/party, or discovering others with similar political affiliations or interests [57]. Pasek et al. [58] suggested that using SNSAs was strongly correlated with greater political knowledge. Although SNSAs attract individuals who are already actively involved in the political arena, they can also play a part in influencing younger generations of new voters to become involved in the political realm [59].

Few studies have specifically involved Middle Eastern contexts, where politics and political engagement can be perceived quite differently. In one study involving 900 Egyptian university students, Al-Arabi and Salem [60] found that SNSAs supported student participation in political movements and in expressing political opinions. In addition, SNSAs were helpful for students to stay abreast of political events and political candidates and parties.

Overall, social networks provide an avenue for political engagement and thus support an individual's social capital, which maintains and promotes interpersonal connections. SNSAs also support various individual connections to engage users more in the political process and thereby increase political awareness. However, little is known about the perspective of students about political engagement in different world contexts.

2.5. Research Questions

In light of the identified gaps in the literature and the significance of an investigation into how students in non-Western contexts are engaging with and are influenced by SNSAs use, the following research question was devised:

What are the perceptions of Saudi Arabian university students regarding the impact of engagement in Social Networking Sites and Apps (SNSAs) on their social capital?

In order to answer this question, the following sub-question was developed to direct the scope of the study: How do Saudi male and female postgraduate students perceive the impact of engagement with SNSAs in terms of their (a) life satisfaction; (b) social trust; (c) civic participation; and (d) political engagement? Gender was an important consideration in the study due to the complexity of the Saudi Arabian context around gender and with the paucity of literature involving both perspectives.

2.6. Ethics Approval

Ethics approval was obtained from Monash University Human Research Ethics Committee (MUHREC). As the data were collected from postgraduate students at UQU in Saudi Arabia, other letters of agreement were obtained from the Royal Embassy of Saudi Arabia—Cultural Attaché Office, the Ministry of Higher Education—Saudi Arabia, and Umm Al-Qura University.

3. Methodology

3.1. Sample

A simple random sample was chosen for this study, which included 313 male (51.7%) and 293 female (48.4%) postgraduate students. Ages were predominantly (97.5%) under 40 years, while only 2.5% were over 40 years of age. Participants were from a range of background disciplines including human sciences (51.5%), social sciences (20.8%) and applied sciences (25.7%) with 2% unknown within the Education college at UQU in Makkah. Male students were studying at the Al-'Abdiyah campus, while female students were studying at the Al-Zahir campus.

3.2. Instruments

Quantitative and qualitative data were collected in a concurrent triangulation mixed methods design. A survey was used to assess the intensity of SNSAs use by postgraduate students and to examine their perceptions relating to social capital, using scales of life satisfaction, social trust, civic participation and political engagement. Qualitative data were gathered through semi-structured interviews.

3.3. Survey

The survey comprised four sections to obtain information related to demographic details, participant's intensity of SNSAs use, academic use of SNSAs and social use of SNSAs. The socio-demographic questions covered age, gender and field of study. The section of the survey related to this article comprised four scales involving 16 items (4×4) relating to social capital as measured by the four domains of life satisfaction, social trust, and civic participation and political engagement.

Life satisfaction was measured by four items from a scale developed by Diener et al. [61], which had shown high levels of internal consistency and temporal reliability [62]. The level of life satisfaction based on the use of SNSAs was gauged using a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The second scale examined social trust and was based on the Faith in People scale by Rosenberg [63], which was broken down into single items based on the approach taken by Burns and Kinder [64]. After revising the scale, which explored perceptions about the behavior of friends and colleagues using SNSAs, four items were included, using a five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The third and fourth scales investigated civic and political engagement, utilizing a scale developed by CIRCLE (The Centre for Information and Research on Civic Learning and Engagement) from a reduced form of the Index of Civic and Political Engagement [65]. After considerable revision, due to cultural differences in the civic and political systems of the study environment, four items for each scale were included to gauge the level of civic participation and political engagement, using a five-point Likert scale ranging from 1 (Never), to 5 (Every time). At the end of this section an open-ended question explored perceptions about which aspects of participants' social life were influenced more positively or negatively by SNSAs use. This question was analyzed based on the details of the student experience obtained from the interviews.

3.4. Semi-Structured Interviews

Interview questions consisted of four open-ended questions structured around the domains of social capital and aimed to investigate how SNSAs use might:

- Raise awareness of students about their life satisfaction;
- Impact on confidence of students toward the local and global community;
- Provide an opportunity for students to participate in civic issues and in political decision-making.

3.5. Validity and Reliability of Instruments

The instruments used in this study were translated from English into Arabic (the mother tongue of participants) by two bilingual translators. A pilot study was conducted, and Saudi experts ensured the validity of the survey content and structure in the Arabic version. Factor analysis (Principal Components analysis) was conducted on the scales of the survey to ensure items of each scale measured one representative factor using the Kaiser–Meyer–Olkin (KMO) test and Barlett's Test of Sphericity (BTS). The interview questions were translated into Arabic and then trialed with five Saudi postgraduate students to refine the questions and to add clarifying follow-up questions.

3.6. Procedure

For the survey, 927 hard copies were distributed during class time at two campuses of UQU during the first and second semesters of 2013/2014. Name and contact details were not required unless the participant was willing to also participate in a follow-up interview, in which case they could include such details on the survey document. A total of 606 valid surveys (313 from male students and 293 from female students) were returned, constituting a 65% response rate, which indicates the interest of the respondents to participate in the study topic. Based on the nested concurrent design associated with the concurrent triangulation design of mixed methods, the qualitative interview data were collected from a sample that represented a subset of a total of the sample who provided the quantitative survey data. Thereby, sixty-one survey participants (28 males and 33 females) also agreed to be interviewed. As the interviewer was male, interviews with male students were conducted face-to-face, while female students were interviewed via closed-circuit technology due to the gendered segregation in education institutions in Saudi Arabia. Female participants were well acquainted and comfortable with this form of interaction, which was accommodated through an Internet based interactive research chat room, to enable postgraduate students and academics (male and female) to interact directly with each other, and receive recorded or live lectures at any time and anywhere using a special account. Through the coordinator of the closed-circuit technology, times of interviews and consent forms were arranged and signed by female interviewees to ensure the confidentiality of the interview and granted the researcher permission to record the interview on the closed-circuit technology.

4. Results

Quantitative data were analyzed using the software package SPSS. Descriptive analysis was conducted to gauge the categorical variables' frequencies and to determine the means and standard deviations of each scale. Pearson correlation coefficients were used to explore the relationships among the domains of social capital, while independent-samples t-tests were used to determine differences between the scores of the social capital domains for male and female students. Parametric tests were considered appropriate as the sample was large, and the data met the requirements for parametric testing. Qualitative data were analyzed through thematic analysis [66].

4.1. Intensity of SNSAs Use

Participants answered two survey questions related to the daily amount of time spent using SNSAs and the level of involvement with friends via SNSAs, with results outlined in Table 1.

Table 1. Intensity of SNSAs use.

	%	M	SD
Q1: Time spent using SNSAs on an average day		3.29	1.37
30 min or less	13.5		
Between 30 min and 1 h	15.2		
Between 1 and 2 h	26.1		
Between 2 and 3 h	18.3		
More than 3 h	26.6		
Q2: Level of involvement with friends SNSAs accounts		3.15	1.29
Rarely visit	13.4		
Only read comments	17.8		
Read posts and comments	26.2		
Read posts and comments and then respond	24.4		
Read posts/comments, respond, and introduce new topics	17.7		

Note: Individual items were recorded from 1 = low intensity to 5 = high intensity in order to calculate an overall mean score for each question.

By using the following mean ranges (mean below 2.5 represents Low intensity, between 2.6 and 3.9 represents Moderate intensity, above 4 represents High intensity), the mean scores for the two questions indicated a moderate level of intensity for SNSAs use by participants. The measurement index for intensity of engagement associated with mean score ranges was determined as appropriate and representative of the range of scales included and the various interpretations used for similar scales.

4.2. Correlations among Social Capital Components

Understanding the nature of the impact of SNSAs use on the social capital of participants requires recognition of the kind of relationships among the components of social capital. Results from a Pearson correlation coefficient (PCC) test presented in Table 2, illustrate that all relationships among the variables were associated positively. The strength of correlation was interpreted by the guidelines of Cohen [67], who stated that a PCC value (r) from 0.10 to 0.29 reveals a small correlation, an (r) from 0.30 to 0.49 reveals a medium correlation and an (r) from 0.50 to 1.0 reveals a large correlation. Table 2 demonstrates a large positive correlation exists between civic participation and political engagement (r = 0.56), while a medium positive correlation exists between life satisfaction and social trust with (r = 0.33).

Table 2. Pearson correlations between the measures of social capital and Social Networking Sites and Apps (SNSAs) use.

No.	Measures of Social Capital		1	2	3	4
1	Life satisfaction scale	Pearson Correlation		0.329 **	0.216 **	0.181 **
		Sig. (2-tailed)		0.000	0.000	0.000
2	Social trust scale	Pearson Correlation	0.329 **		0.293 **	0.178 **
		Sig. (2-tailed)	0.000		0.000	0.000
3	Civic participation scale	Pearson Correlation	0.216 **	0.293 **		0.563 **
		Sig. (2-tailed)	0.000	0.000		0.000
4	Political engagement scale	Pearson Correlation	0.181 **	0.178 **	0.563 **	
		Sig. (2-tailed)	0.000	0.000	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

4.3. Perceptions of the Impact of SNSAs on Social Capital

Table 3 details the descriptive statistics relating to each of the scales in relation to the impact of SNSAs use. For the purpose of determining whether the perception of the components could be described as low, moderate or high, the following descriptors were used in all the scales in the survey that employed the agreement scale (in life satisfaction and social trust) with anchors ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) or the frequency scale (in civic participation and political engagement) with anchors ranging from 1 (Never) to 5 (Every time):

Mean below 2.5: Low level of agreement or engagement,
Mean between 2.6 and 3.9: Moderate level of agreement or engagement,
Mean above 4: High level of agreement or engagement.

The results indicate that the means of each scale were perceived as being moderately impacted via use of SNSAs. In the life satisfaction scale, there was a moderate level of agreement on life satisfaction connected to SNSAs use, with all ratings above 3 but none above 4. Similarly, the results of the social trust scale indicate a moderate level of agreement with social trust among participants in their use of SNSAs, with all scores above 3.5 but none reaching 4. Means of all civic participation items ranged from 2.91 to 3.35, with an overall mean of 3.10, indicating a moderate level of engagement with SNSAs for civic purposes. Results relating to participants' perceptions of use of SNSAs for political engagement ranged from 2.18 to 3.35, with an overall mean of 2.83 suggesting a low to moderate level of engagement with SNSAs for political purposes.

Table 3. Descriptive statistics for scales of social capital and SNSAs.

	Min	**Max**	**M**	**SD**
Life Satisfaction			3.50	0.68
1. In most ways, my life is close to ideal	1	5	3.19	0.93
2. The conditions of my life are excellent	1	5	3.63	0.87
3. I am satisfied with my life	1	5	3.85	0.91
4. So far, I have received the important things I want in life	1	5	3.32	1.04
Social Trust			3.71	0.59
1. People try to trust you	1	5	3.74	0.89
2. People try to take advantage of you	1	5	3.67	0.78
3. People try to be fair to you	1	5	3.53	0.82
4. People try to be helpful to you	1	5	3.89	0.67
Civic Participation			3.10	0.77
1. Contributes to social development	1	5	2.92	0.98
2. Participates in socio-cultural groups	1	5	3.25	1.07
3. Contributes to improving living conditions	1	5	2.91	1.04
4. Publishes links to support community issues	1	5	3.35	1.15
Political Engagement			2.83	0.85
1. Supports political decisions	1	5	2.18	1.11
2. Expresses opinion about public issues	1	5	2.99	1.13
3. Contributes to trade boycotts	1	5	2.82	1.17
4. Supports the protection of integrity and anti-corruption	1	5	3.35	1.18

4.4. Comparison of Gender Differences in Social Capital

Gender differences in the components of social capital of participants were explored by using an independent samples t-test, displaying differences in the means of all items of each scale. The results of all items of each scale are outlined in Tables 4–7.

Table 4. Gender comparison: Life satisfaction.

		Overview Result				*t*-Test for Equality of Means		
	Variable	Male Mean	St. Dev.	Female Mean	St. Dev.	t	df	Sig. (2-tailed)
1	In most ways, my life is close to ideal	3.23	0.942	3.14	0.907	1.128	596	0.260
2	The conditions of my life are excellent	3.63	0.870	3.63	0.873	0.061	595	0.951
3	I am satisfied with my life	3.92	0.934	3.78	0.884	1.776	600	0.076
4	So far, I have achieved the important things I want in life	3.20	1.133	3.44	0.925	−2.837	588.86	0.005
	Result	3.50	.681	3.50	0.672			

	Overview Result			*t*-test for Equality of Means		
Gender	N	Mean	St. Dev.	t	df	Sig. (2-tailed)
Male	312	3.49	0.681	−0.132	603	0.895
Female	293	3.50	0.672			

The results in Table 4 show no statistically significant difference was found in the mean scores of males (*M* = 3.49, *SD* = 0.681) and females (*M* = 3.50, *SD* = 0.672; *t*(603) = −0.132, *p* = 0.90). Slight differences were found for some items, with males agreeing they were slightly more satisfied with life (*M* = 3.92) than females (*M* = 3.78), and females agreeing they had achieved the important things they want in life (*M* = 3.44) to a greater extent than males (*M* = 3.20).

Table 5. Gender comparison: Social trust.

		Overview Result				*t*-Test for Equality of Means		
	Variable	Male Mean	St. Dev.	Female Mean	St. Dev.	t	df	Sig. (2-tailed)
1	People try to trust you	3.71	0.966	3.77	0.801	0.633	599.79	0.527
2	People try to take advantage of you	3.71	0.782	3.64	0.779	−0.873	593.91	0.383
3	People try to be fair to you	3.54	0.840	3.53	0.791	1.035	600	0.301
4	People try to be helpful to you	3.89	0.741	3.89	0.644	0.094	595	0.925
	Result	3.71	0.643	3.71	0.526			

	Overview Result			t-test for Equality of Means		
Gender	N	Mean	St. Dev.	t	df	Sig. (2-tailed)
Male	313	3.71	0.643	−0.081	592,62	0.936
Female	291	3.71	0.526			

Table 5 displays the very similar responses for males and females. An independent samples *t*-test indicated no statistically significant difference in the mean score for males (*M* = 3.71, *SD* = 0.643) and females (*M* = 3.71, *SD* = 0.526; *t*(592,62) = −0.081, *p* = 0.94).

Table 6. Gender comparison: Civic participation.

	Variable	Overview Result				t-Test for Equality of Means		
		Male Mean	St. Dev.	Female Mean	St. Dev.	t	df	Sig. (2-tailed)
1	Contributes to social development	3.02	1.014	2.81	0.932	−0.334	598	0.738
2	Participates in socio-cultural groups	3.34	1.065	3.15	1.063	−0.083	588	0.934
3	Contributes to improving living conditions	2.96	1.056	3.85	1.029	0.758	597	0.449
4	Publishes links to support community issues	3.44	1.148	3.26	1.150	2.612	600	0.009
	Result	3.19	0.777	3.02	0.761			

Overview Result				t-test for Equality of Means		
Gender	N	Mean	St. Dev.	t	df	Sig. (2-tailed)
Male	312	3.19	0.777	2.742	603	0.006
Female	293	3.02	0.761			

Table 6 highlights a statistically significant difference in the mean scores of males (*M* = 3.19, *SD* = 0.777) and females (*M* = 3.02, *SD* = 0.761; *t*(603) = 2.742, *p* = 0.01). However, by calculating the effect size with the use of Eta-squared (n2), as proposed by Cohen [67], who interprets the value of 0.01 as a small effect, 0.06 as a moderate effect and 0.14 as a large effect, the result indicates a small effect size (*n2* = 0.012). Overall, males used SNSAs for civic purposes more than their female counterparts. Notably, males rated using SNSAs for contributing to social development (*M* = 3.02) more than females (*M* = 2.81), whereas females used SNSAs for participating in improving the living conditions of others (*M* = 3.85) more than males (*M* = 2.96).

Table 7. Gender comparison: Political engagement.

	Variable	Overview Result				t-Test for Equality of Means		
		Male Mean	St. Dev.	Female Mean	St. Dev.	t	df	Sig. (2-Tailed)
1	Supports political decisions	2.25	1.124	2.11	1.084	2.196	601	0.028
2	Expresses opinion about public issues	3.19	1.102	2.79	1.123	1.257	597	0.209
3	Contributes to trade boycotts	2.96	1.208	2.66	1.110	1.591	601	0.112
4	Supports protection of integrity and anti-corruption	3.53	1.187	3.16	1.136	4.399	591	0.000
	Result	2.98	0.826	2.68	0.838			

Overview Result				t-test for Equality of Means		
Gender	N	Mean	St. Dev.	t	df	Sig. (2-tailed)
Male	312	2.98	0.826	4.378	603	0.000
Female	293	2.68	0.838			

Table 7 shows a statistically significant difference in the political engagement scale for males (M = 2.98, SD = 0.826) and females (M = 2.68, SD = 0.838; t (603) = 4.378, *p* = 0.00), but with a small effect size (n2 = 0.030). This result indicates that males used SNSAs to participate in political issues more than females did. The differences were particularly noticeable with regard to expressing opinions about public issues and supporting the protection of integrity and anti-corruption.

4.5. Perceptions of the Impact of SNSAs on the Social Capital via the Interviews

To begin the analysis of the qualitative data, all recorded interviews were transcribed into textual data. This was complicated by the fact that the data were presented in Arabic but would be reported in English, which limited the possibilities of employing software packages such as NVivo for coding. All interview transcripts were analyzed using thematic analysis [66] to identify themes and sub-themes representing the benefits and limitations of SNSAs use on each component of social capital. The transcripts were written and prepared for analysis in the original language of the interviews (i.e., Arabic), while the emergent themes and sub-themes were translated into the target language (English). Two bilingual translators revised the translation and back-translation (from the original to the target language and vice versa) of interview transcripts after analysis. To develop the themes in terms of the components of social capital, the first step in the thematic analysis was to read the transcripts of the interviews line by line. The sub-themes were then identified from the transcripts of the recorded interviews. This process of developing themes consisted of two steps: open coding and axial coding. The open coding refers to a search for meaning in each line of the transcripts, while the axial coding refers to the process of finding a link between the listed sub-themes and the major themes in each component of the study. This process helped sort the data into sub-themes and then connected them under the major themes of each component as displayed in Tables 8–11.

Table 8. Themes relating to SNSAs and life satisfaction.

Themes	Sub-Themes	Frequency of Mention	
		Male	Female
Benefits			
Offering useful information	Detecting and developing personal hobbies	1	3
	Conducting private consultations	2	3
	Satisfying personal interests and curiosity	18	7
	Supporting self-development	1	5
Raising awareness of current developments	Correcting misconceptions and avoiding hazards	3	2
	Obtaining experience in dealing with others	1	1
	Advertising events in different outlets	5	5
	Recognizing local and global intellectual trends	1	2
	Learning about different viewpoints	-	3
Providing opportunities to diversify interests	Participating in a wide range of issues	4	2
	Diversifying between reading, writing, and replying	2	4
	Changing convictions and receiving new ideas	2	2
	Discussing and sharing interests	1	1
Limitations			
Content of SNSAs	Providing general not specialized knowledge	2	1
	Spending too much time	1	-
	Obtaining incorrect information	1	2
Behavior of users	Existence of misunderstandings among users	2	1
	Exacerbation of contentious issues	1	1

Table 9. Themes relating to SNSAs and social trust.

Themes	Sub-Themes	Frequency of Mention	
		Male	Female
Benefits			
Increasing self-confidence	Feeling comfortable in discussions	3	2
	Providing adequate time to answer and reply	9	2
	Participating in societal events	3	1
Obtaining reliable information	Establishing a list of trusted followers	14	12
	Accessing the main sources of information	5	1
	Existence of different reliable sources	2	2
Dealing with others confidently	Participating candidly with others	7	3
	Accepting opinions of others	23	6
	Accepting the spread of participation	5	-
Limitations			
Content of SNSAs	Displaying private information	1	-
	Existence of offensive participation	1	-
Capabilities of SNSAs	Impersonation of users	1	1
	Penetration of users' accounts	2	-
Behavior of users	Existence of caution among users	1	-
	Withdrawing from discussion	1	-
	Off-topic discussion	1	-
	Misunderstanding of others' opinions	1	-
	Existence of bias in discussion	-	1
	Wasting time	1	-

Table 10. Themes relating to SNSAs and civic participation.

Themes	Sub-Themes	Frequency of Mention	
		Male	Female
Benefits			
Developing individual performance	Sharing experiences with others	9	8
	Obtaining different experiences	10	2
	Recognizing difficulties and their solutions	2	2
	Conducting courses and lectures	1	3
Participating in community development	Providing answers and suggestions	5	5
	Organizing efforts and linking ideas	3	-
	Supporting and conducting social projects	3	-
	Attracting the attention of decision makers	2	1
Providing assistance to others	Delivering local and international assistance quickly	13	15
	Receiving and providing assistance reliably	7	5
	Obtaining financial support for the needy	-	2
	Supporting people emotionally	1	1
Limitations			
Capacities of SNSAs	Falsifying of others accounts	1	1
	Setting up fake accounts	2	1
Content of SNSAs	Existence of undesirable protests	2	-

Table 11. Themes relating to SNSAs and political engagement.

Themes	Sub-Themes	Frequency of Mention	
		Male	Female
Benefits			
Participation and expressing opinions	Providing enough space to express opinions	11	7
	Delivering the peoples' voice to officials	6	3
	Participating in international issues	3	3
Detecting security risks	Exchanging security advice	9	3
	Warning individuals about hazardous ideas	3	3
	Participation of official bodies	3	1
	Delivering advice in appropriate ways	5	1
Supporting anti-corruption efforts	Monitoring corruption among officials	2	2
	Curbing corruption	5	5
	Documenting corruption	4	1
Limitations			
Behavior of users	Neglecting advice and the existence of bias	3	-
	Differentiation in the level of users' education	1	-
	Incorrect use of demands	1	-
	Existence/formation of extremist/offensive opinions	3	1
	Differentiation in users' knowledge/understanding	2	-
Capabilities of SNSAs	Lack of adoption of SNSAs use by officials	4	1
	Inequalities in delivering opinions	-	1

5. Discussion

The main purpose of this study was to explore the perceptions of postgraduate students in Saudi Arabia about the impact of SNSAs use on their social capital as measured by life satisfaction, social trust, civic participation, and political engagement. Using survey data collected from male and female students of UQU, the results (Table 2) provided evidence that positive associations among the components of the framework utilized in the study exist, which concur with the social capital framework of Scheufele and Shah [20], and Valenzuela et al. [15]. In addition, the results indicated a medium level of influence of SNSAs in relation to all components of social capital. This was supported by interview data.

5.1. The Impact of SNSAs Use on Life Satisfaction

The results of the survey revealed that participants reported moderate levels ($M = 3.50$, $SD = 0.68$) of life satisfaction associated with their use of SNSAs, while interview data indicated an overall perception of a positive impact from the use of SNSAs. This influence was presented in terms of three main themes: acquiring knowledge, increasing levels of awareness, and opportunities for diversification of interests.

In the first theme, the ability to obtain information about hobbies, interests and self-development skills, and offering a private environment for inquiries on SNSAs was perceived as having a positive impact on life satisfaction. These perceptions were supported by other studies. Al-Qarni [2] found pursuing talents and hobbies on SNSAs had the most positive emotional impact on students' lives. Al-Shehri [4] also found SNSAs helped female students express their feelings and intellectual opinions, leading to a feeling of freedom and contentment, especially when delivering messages to large groups of users. Hughes et al. [68], in a British study, found that the personalities of participants were related to seeking and exchanging information on Facebook and Twitter, which offered an arena for private social interaction via messaging (direct and public).

The second theme highlighted increased awareness of current developments (e.g., correcting misconceptions, avoiding hazards, dealing with others, accepting different

opinions, and realizing different intellectual trends) and receiving news in different forms on SNSAs. This role of SNSAs was also reported by Mazumdar and Thakker [69] for public users, by Al-Shehri [4] and Al-Qarni [2] who found SNSAs assisted students to obtain and exchange positive experiences in relation to their practical and cultural lives from other users in different nations, leading to increased awareness and positive reflection on contentment with life. Burke et al. [70] in the USA, stated that SNSAs supported newcomers sharing content and receiving feedback. In the current study, increased awareness was also perceived as supporting intellectual aspects and thereby life satisfaction.

The third theme related to opportunities through SNSAs for diversification of interests and access to new ideas and shared interests. Similarly, a Saudi study by Otaibi [71], found students used SNSAs to satisfy curiosity and understand diversity. In the USA, Heer and Boyd [72] found SNSAs helped people connect through shared interests. The current study also highlighted the role of SNSAs as a means of enjoyment for students but also as a way of promoting life satisfaction.

A number of limitations were also identified by participants in the current study. The first related to accessibility of a vast range of general information and topics via SNSAs, which could result in large amounts of time spent searching for more detailed information and the possibility of receiving incorrect information. Similarly, Al-Qarni [2] found that students complained that SNSAs contained more general than specialized information. The second limitation related to the potential for misunderstandings due to the absence of direct face-to-face meetings and the growth of highly contentious issues being debated on SNSAs. This point was attributed by Saif [73] to the generational diversity in Saudi Arabia and primarily to the diversity of cultures in these generations based on their inherited traditions and norms. Overuse of SNSAs can also limit opportunities for development of face to face social skills [74,75].

Gender Differences in Life Satisfaction

A number of items in the life satisfaction scale differed slightly with males (M = 3.92, SD = 0.93) more content with their lives than females (M = 3.78, SD = 0.88) but females (M = 3.44, SD = 0.93) ranked higher than males (M = 3.20, SD = 1.13) that they had obtained what they need in life. Similar results were found in an Egyptian study by Khalil [76], who attributed the reason to the limited use of SNSAs for personal purposes, and to the age of users who as adults expected other factors to influence their life satisfaction. In the current study, participants' comments indicated their religion (i.e., Islam) as a factor that influenced their life satisfaction. The Islamic religion is closely connected with all aspects of Saudis' lives, and plays an important role in forming the style of social life in the community [77–80].

In interviews, males spoke more about the role of SNSAs in meeting personal interests while females highlighted the benefits of SNSAs in supporting self-development and accessing different opinions. These experiences of the female participants support the findings of ACSRC [81] regarding the purpose of using the Internet in Saudi Arabia, where presenting opinions, reviewing views, and following others' postings were primary goals of users. Findings suggest that 70% of females and 41.6% of males connect with forums and sites on the Internet [81], but further comparative studies of gender would clarify understandings.

5.2. The Impact of SNSAs Use on Social Trust

In the current study, the social trust scale demonstrated that participants indicated a moderate to high level of social trust (*M* = 3.71, *SD* = 0.59) in relation to SNSAs. In the interviews, participants supported the role of SNSAs in increasing levels of social trust through developing self-confidence, obtaining reliable information, and dealing with others confidently.

Increased self-confidence resulted from feeling comfortable in discussions, having sufficient time to reply, and being able to participate in community events. Similar results

were reported by Alzboon and Abu-Seileek [48]; and Kasuma and Wray [82], who found using SNSAs improved students' self-confidence. This was due to removing social and psychological barriers between genders through discussion, without the need to meet face-to-face [48], increasing social interaction with family and friends, and reading and sharing information [82]. With the customs and traditions that play an active role in Saudi society [83,84], the absence of social barriers in discussions via SNSAs was an important factor for increasing social interaction and self-confidence of participants in the current study. While SNSAs provide a space for discussions for Saudi users, the existence of tribal, regional or ethnic intolerance could potentially limit the ease of interacting (Alzboon and Abu-Seileek [48].

The opportunity to obtain reliable information from original sources or from trusted followers was also raised as an advantage of access to SNSAs by participants in the current study and supported by other studies [2,48,85,86]. In contrast, Alghamdi and Plunkett [87] found that SNSAs can also deliver unreliable information, such as unsolicited invitations. Likewise, Albalawi et al. [86] found that 31.2% of the dataset used in their study from SNSAs (Twitter) were classified as untrustworthy health information. However, they found that users were quite effective in identifying trustworthy information sources on SNSAs.

Communicating with other users confidently and tolerantly was reported by the participants of the current study in relation to increasing their social trust, supporting survey results on the social trust scale where participants rated as highest the fact that people try to be helpful to them on SNASs (M = 3.89, SD = 0.67). Al-Qarni [2] found that SNSAs foster students' social trust both towards themselves and others through their interactions and exposure to the opinions of others. This was also supported by other studies, which found SNSAs increased the social trust of users through the content and activities of their online relationships and existence of a comfortable and secure environment for building relationships with others [40,44,46]. However, Manca and Ranieri [47] stated that lack of interpersonal information about other users could limit the building of social trust during interactions.

Other concerns raised in the current study included apprehension about displaying private information and the lack of rules preventing offensive participation. In the social trust scale, the item relating to people trying to be fair on SNSAs rated lowest (M = 3.53, SD = 0.82). Al-Qarni [2] also noted complaints about invasions of privacy that could lead to extortion, dissemination of insulting language, verbal abuse and defamation on SNSAs. Other concerns about privacy and discussions on SNSAs have been reported [46,88–91].

The potential of SNSAs for impersonation and for penetrating accounts was raised by participants in interviews, supporting concerns raised in other studies [92], regarding privacy and defamation of character [48] and potential for misuse of personal information [93]. This highlights the "complicit risk in communities where personal information becomes social capital, which is traded and exchanged" [94], and suggests rethinking the safe use of SNSAs [93].

Participants in the current study suggested caution when engaging in discussion forums, avoiding writing about inappropriate topics, engaging with undesirable users, withdrawing from discussions with others due to misunderstandings, and wasting time on SNSAs. All these issues were perceived as limiting the role of using SNSAs for building social trust and supported by other studies that found the potential for babble, backbiting, tale-bearing and ridicule from others [48], and alienating potential employers through posting inappropriate content [95].

Gender Differences in Social Trust

A number of items in the social trust scale showed gender differences with slightly higher ratings for males in feeling that people try to take advantage, and for females in feeling that people try to trust. Shen and Khalifa [96] also found male students cared more about trust from others, while females were slightly higher in their belief that they can be trusted.

In interviews, males mentioned using SNSAs more often than females with regard to social trust, particularly in relation to discussion, and a wide acceptance of others' opinions. However, the acceptance of others' opinions through using SNSAs was perceived as a positive motive for achieving life satisfaction by females more than males. Finding the same motives behind life satisfaction and social trust indicates a moderate correlation (r = 0.33), as reported in the current study, between them in relation to the use of SNSAs, and concurs with the reciprocal relationship between life satisfaction and social trust [20,44,97].

5.3. The Impact of Using SNSAs on Civic Participation

Participants in the current study showed a moderate level of civic participation (*M* = 3.10, *SD* = 0.77) through SNSAs. This level of participation was supported by numerous experiences reported through the interviews. Participants confirmed the role of SNSAs in supporting their civic participation towards developing themselves, their community and its members.

In terms of developing their own abilities, participants mentioned the role of SNSAs in improving their social performance by sharing experiences in different walks of life, gaining an understanding of societal difficulties and possible solutions, and finding information relating to useful courses and lectures related to their lives. Other studies found SNSAs were useful as a source of knowledge for university students in relation to civic life in Jordan [48], social responsibility and participation in the community in Egypt [98], and civic learning through campus activism in North American universities [99]. However, in the current study, the experience of postgraduate students revealed the role of SNSAs as a medium of engagement with others more than just as a source of knowledge in terms of developing their capacity to support the community.

The second theme related to opportunities for developing community through introducing new ideas, uniting efforts and engaging in community projects. Similar to this, Mahmood [98] found that SNSAs increased the value of social responsibility for students by supporting them to engage in social projects, such as environmental protection within their community. Indeed, this supports the positive correlation found by Park et al. [52] between participation in offline civic activities and using SNSAs by students in North America. In China, Ke and Starkey [100] explain how the complexity and challenges of offline civic participation prompted students to online participation through SNSAs where "they can speak out online to assert their rights and to show their sense of responsibility to wider society" [100]. In the current study, the results of the civic participation scale on the survey showed that publishing links to support social issues in the community was reported by participants as the highest activity (M = 3.35, SD = 1.15).

The third theme related to harnessing the capacity of SNSAs to help others by identifying those in need both locally and internationally, offering reliable channels of assistance, finding donors, and providing emotional support for individuals. These examples support the results of an Algerian study conducted by Canon [53] about the role of SNSAs toward changing the traditional volunteer participation to a digital model. Carter [101] reported that SNSAs helped to contain Ebola in Nigeria and contributed to recruiting volunteers, collecting donations for charities that helped with the outbreak. Similarly, Alanzi and Alsaeed [102] found that 243 (82%) of the participants received requests for blood donations through SNSAs in Saudi Arabia. Likewise, Alshakhs and Alanzi [103] found that 96 (80%) of participants from health-care professions in Saudi Arabia agreed with the

benefits of using SNSAs in provision of health services, increased patient education, and public health awareness. However, in the current study the results of the civic participation scale on the survey revealed that using SNSAs to improve living conditions of others was rated as the lowest activity (M = 2.91, SD = 1.04).

In the interviews, participants found the potential for setting up fake accounts and impersonation of others reduced confidence that assistance was going to legitimate sources. In addition, they reiterated the need for a high level of caution when participating in forums dealing with social issues, due to the existence of undesirable protests from others. These limitations reduced the role of SNSAs within the field of voluntary work and civic participation. However, Mahmood [98], found decreased confidence was not attributable to misuse of SNSAs but to the unwillingness of students due to a lack of positive role models and policies that motivate and encourage civic participation. Conversely, in the current study, participants indicated both an interest and willingness to be civically involved, despite concerns about privacy and security.

Gender Differences in Civic Participation

On the civic participation scale, the results indicated a slightly higher score for males (*M* = 3.19, *SD* = 0.78) than females (*M* = 3.02, *SD* = 0.76). Likewise, males mentioned the use of SNSAs in different civic activities more than females through the interviews. Mahmood [98] also found that low caution among males in arranging social relationships on SNSAs was the reason for their higher levels of civic participation compared with females.

However, females in the current study had higher levels of participation than males on SNSAs for the purpose of providing assistance. This could be attributed to the desire of females to remain close to home while carrying out civic duties. This concurs with the Saudi culture where family responsibilities are very much the domain of females [104]. Al-Saggaf [105] found that neglecting family commitments by spending too much time on online communities via the Internet was the most negative impact reported by Saudi females. The results of the current study indicate that females perceived that online engagement with SNSAs could be managed while maintaining family commitments.

5.4. The Impact of Using SNSAs on Political Engagement

The current study's findings showed participants had a reasonably low to moderate level of political engagement (*M* = 2.83, *SD* = 0.85) in relation to SNSAs, while interviews outlined the useful opportunities afforded by SNSAs to express opinions, detect risks to the security of the community and participate in anti-corruption. However, there were limitations that could be considered equal but opposite to the benefits of SNSAs in this regard, limitations associated with the behavior of users and the capabilities of SNSAs.

SNSAs were perceived as providing space for expressing opinions on global and local political issues, which also rated the second highest use of SNSAs (*M* = 2.99, *SD* = 1.13) on the political engagement scale. This supports Al-Arabi and Salem [60] findings that SNSAs helped university students express their political opinions with more freedom and without supervision, and facilitated pursuit and discussion of current political events [60]. In Chile, Valenzuela [106] found that opinion expression mediated the relationship between protest behavior and SNSAs use by adults aged 18 to 29. However, the types of activities including protests and choosing candidates or political parties, which might be considered common forms of political engagement in democratic societies were not part of participants' experiences in the current study due to the differences between the political environment in Saudi Arabia and that of other countries.

Participants pointed out the inequalities between the delivery of opinions by famous users and by others, and the existence of extremist opinions expressed through political debate. This was reported by Al-Mohsen [3] and Wojcieszak [107], who also found that extremism increased with online participation. Using SNSAs to contact officials of institutions was also reported. Similarly, Donnelly-Smith [108], in the USA, found SNSAs

helped in campaigning by joining people within online groups to voice their political opinions in such a way that could not exist elsewhere. However, participants in the current study found the reaction from institutions was low, which was attributed to a lack of official SNSAs adoption, misuse of SNSAs, or lack of awareness of users to discuss their claims on SNSAs. From this perspective, Al Turais [109] asserted the importance of adopting SNSAs to increase organizational performance in Saudi Arabia. Alaraifi [110] stated that successful assimilation of SNSAs in the Saudi community was associated with individual, technological, and institutional factors including social values, family structure, public transparency, and religious information.

Interviews highlighted the role of SNSAs in detecting security risks by disseminating information related to the security of the community and warning users about extremist ideas. In addition, participants pointed out the role of official bodies in sending security advice via SNSAs. This is considered important in Saudi Arabia where the "most active threat comes from both internal and external extremists" [111]. Abu-katwah and Al-Baz [112] also asserted that SNSAs helped increase awareness of university students about community and enhanced their ability to discuss political issues from positive perspectives. However, recipients on SNSAs sometimes neglect this information and participate in controversial discussions.

Participants noted that SNSAs can support monitoring, documenting, and diminishing corruption. The political engagement scale showed that using SNSAs for supporting anti-corruption received the highest rating (M = 3.35, SD = 1.18). This supports a Saudi study by Al-Abdulwahab [113], who reported that SNSAs encourage the culture of transparency and accountability in relation to detecting corruption and reduce the monopoly of corruption-related information. Bertot et al. [114], in the USA, maintained that using SNSAs by e-government helped to increase transparency and reduce corruption.

However, a focus on the role of SNSAs in detecting corruption rather than on finding solutions and the existence of individual efforts were raised as concerns and limited the use of SNSAs by participants in the current study. In fact, this may explain the moderate level of agreement relating to SNSAs use for contributing to trade boycotts (*M* = 2.82, *SD* = 1.17) reported on the political engagement scale.

Gender Differences in Political Engagement

The political engagement scale did not display a statistically significant difference, but there were slightly higher overall ratings for males (*M* = 2.98, *SD* = 0.826) than for females (*M* = 2.68, *SD* = 0.838), indicating that in general males used SNSAs for political participation more than females. This concurs with the ACSRC [81] report that found almost 40% of Saudi males used the Internet for political purposes compared with only 26% of females. Other studies support the existence of significant gender differences regarding political purposes in SNSAs in Saudi Arabia [3], the concepts of political development in Jordan [115], and increased political awareness associated with the use of modern media in Yemen [116].

In the current study, political engagement related to documenting corruption, and exchange of security advice through SNSAs was reported more by males than females, supporting results of a study by Al-Arabi and Salem [60] in Egypt. Although there is a dearth of studies investigating gender differences in terms of SNSAs for political use, the current study results may reflect the influences of Saudi culture and views in this regard [104].

6. Conclusions

It can be concluded that findings of the current study support SNSAs having a strong positive impact on the social capital of students, especially on their life satisfaction, social trust, civic participation and political engagement, although the level of using SNSAs was moderate in the aforementioned aspects. The positive impact of using SNSAs was apparent in supporting postgraduate students' contentment by increasing their awareness and providing useful information connected to their interests. Dealing with others confidently and receiving reliable information were other advantages associated with using SNSAs. Civic and political participation was aided by SNSAs enabling community involvement, expressing of opinions, detecting security risks or supporting anti-corruption efforts.

Participants also confirmed the existence of unacceptable behavior from users and un-useful or undesirable content on SNSAs. In addition, they found information security settings were low for many SNSAs. Gender differences were mostly attributed to the cultural mores of Saudi society, illustrating the capacity of SNSAs for adaption in the conditions and backgrounds of other users' communities. A limitation of the study was that it was restricted to one university and one body of students (postgraduate), so it may not be representative of the entire student population within Saudi Arabia. As such, it is important that further research is conducted into exploring the positive impact, resolving the limitations, and finding out more about gender differences in the use of SNSAs and the concomitant impact on social capital of students in different regions, particularly since the present study showed new implementations for the use of this technology in the Middle East.

References

1. General Authority for Statistics. *Demographic Research of Saudi Arabia in 2016*; General Authority for Statistics: Riyadh, Saudi Arabia, 2016.
2. Al-Qarni, H.A. The effect of using social networking sites on the behaviour of Tabuk University students. *Int. Interdiscip. J. Educ.* **2013**, *2*, doi:10.12816/0002977.
3. Al-Mohsen, M. The role of social media in the development of political awareness among a sample of Saudi university students. *J. Educ. Fac. Al-Azhar Univ.* **2013**, *2*, 79–117.
4. Al-Shehri, H. The Effects of Electronic Social Networks on Social Relationships (Facebook and Twitter as examples): A Survey Study on a Sample of King Abdul Aziz University Students in Jeddah. Unpublished Master's Thesis, King Abdul Aziz University, Jeddah, Saudi Arabia, 2014.
5. Al-Saud, N. Motivations of young Saudi university students to use social networks and benefits achieved from them—A field study on students at King Saud University in the second quarter of 1433 AH (2011). *J. Hum. Soc. Sci.* **2014**, *34*, 201–266.

6. Al-Tayyar, F. Social networks and their impact on the values of university students (Twitter as an example): Applied study on students at King Saud University. *Arab J. Secur. Stud. Train.* **2014**, *30*, doi:10.12816/0007967.

7. Putnam, R.D. *Bowling Alone: The Collapse and Revival of American Community*; Simon & Schuster: New York, NY, USA, 2000.

8. Rubenson, D. Participation and politics: Social capital, civic voluntarism, and institutional context. In Proceedings of the Political Studies Association-UK 50th Annual Conference, London, UK, 14–19 April 2000, pp. 10–13.

9. Lake, R.L.D.; Huckfeldt, R. Social Capital, Social Networks, and Political Participation. *Political Psychol.* **1998**, *19*, 567–584, doi:10.1111/0162-895X.00118.

10. Zhang, W.; Johnson, T.J.; Seltzer, T.; Bichard, S.L. The Revolution Will Be Networked the Influence of Social Networking Sites on Political Attitudes and Behavior. *Soc. Sci. Comput. Rev.* **2010**, *28*, 75–92, doi:10.1177/0894439309335162.

11. Lin, N. *Social Capital: A Theory of Social Structure and Action*; Cambridge University Press: New York, NY, USA, 2002; Volume 19.

12. Putnam, R.D. Bowling Together. Available online: http://www.oecdobserver.org/news/archivestory.php/aid/1215/Bowling_together.html (accessed on 27 September 2015).

13. Huysman, M.; Wulf, V. *Social Capital and Information Technology*; Mit Press: Cambridge, MA, USA, 2004.

14. Resnick, P. Beyond bowling together: Sociotechnical capital. In Proceeding of CSCW '00: Proceedings of the 2000 ACM conference on Computer supported cooperative work, Philadelphia, PA, USA, 2–6 December 2000; pp. 247–272.

15. Valenzuela, S.; Park, N.; Kee, K.F. Is There Social Capital in a Social Network Site?: Facebook Use and College Students' Life Satisfaction, Trust, and Participation. *J. Comput. Mediat. Commun.* **2009**, *14*, 875–901, doi:10.1111/j.1083-6101.2009.01474.x.

16. Ellison, N.B.; Steinfield, C.; Lampe, C. The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *J. Comput. Mediat. Commun.* **2007**, *12*, 1143–1168, doi:10.1111/j.1083-6101.2007.00367.x.

17. Joinson, A.N. Looking at, looking up or keeping up with people?: Motives and use of facebook. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Florence, Italy, 5–10 April 2008; pp. 1027–1036.

18. Burke, M.; Marlow, C.; Lento, T. Social network activity and social well-being. In Proceedings of the CHI '10: SIGCHI Conference on Human Factors in Computing Systems, Atlanta, GA, USA, 10–15 April 2010; pp. 1909–1912.

19. Steinfield, C.; Ellison, N.B.; Lampe, C. Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *J. Appl. Dev. Psychol.* **2008**, *29*, 434–445, doi:10.1016/j.appdev.2008.07.002.

20. Scheufele, D.A.; Shah, D.V. Personality strength and social capital the role of dispositional and informational variables in the production of civic participation. *Commun. Res.* **2000**, *27*, 107–131, doi:10.1177/009365000027002001.

21. Shah, D.V.; Holbert, R.L.; Kwak, N. Expanding the "virtuous circle" of social capital: Civic engagement, contentment, and interpersonal trust. In Proceedings of the Annual Meeting of the Association for Education in Journalism and Mass Communication, New Orleans, LA, USA, 3–8 August 1999.

22. Brehm, J.; Rahn, W. Individual- Level Evidence for the Causes and Consequences of Social Capital. *Am. J. Political Sci.* **1997**, *41*, 999–1023, doi:10.2307/2111684.

23. Shah, D.V. Civic Engagement, Interpersonal Trust, and Television Use: An Individual-Level Assessment of Social Capital. *Political Psychol.* **1998**, *19*, 469–496, doi:10.1111/0162-895X.00114.

24. Uslaner, E.M. Social Capital, Television, and the "Mean World": Trust, Optimism, and Civic Participation. *Political Psychol.* **1998**, *19*, 441–467, doi:10.1111/0162-895X.00113.

25. Chen, L.S.-L. Subjective well-being: Evidence from the different personality traits of online game teenager players. *CyberPsychology Behav.* **2008**, *11*, 579–581, doi:10.1089/cpb.2007.0192.

26. Shah, D.V.; Kwak, N.K.; Holbert, R.L. "Connecting" and" disconnecting" with civic life: Patterns of Internet use and the production of social capital. *Political Commun.* **2001**, *18*, 141–162, doi:10.1080/105846001750322952.

27. Kim, J.; Lee, J.-E.R. The Facebook paths to happiness: Effects of the number of Facebook friends and self-presentation on subjective well-being. *Cyberpsychol. Behav. Soc. Netw.* **2011**, *14*, 359, doi:10.1089/cyber.2010.0374.

28. Oh, H.J.; Ozkaya, E.; LaRose, R. How does online social networking enhance life satisfaction? The relationships among online supportive interaction, affect, perceived social support, sense of community, and life satisfaction. *Comput. Hum. Behav.* **2014**, *30*, 69–78, doi:10.1016/j.chb.2013.07.053.

29. Valkenburg, P.M.; Peter, J.; Schouten, A.P. Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology Behav. Impact Internet Multimed. Virtual Real. Behav. Soc.* **2006**, *9*, 584–590.

30. Klingensmith, C.L. 500 friends and still friending: The relationship between Facebook and college students' social experiences. *Honors Proj. Paper.* **2010**, *22*, 1–64.

31. Correa, T.; Hinsley, A.W.; de Zúñiga, H.G. Who interacts on the Web?: The intersection of users' personality and social media use. *Comput. Hum. Behav.* **2010**, *26*, 247–253, doi:10.1016/j.chb.2009.09.003.

32. Leimeister, J.M.; Krcmar, H.; Köbler, F.; Vetter, C.; Riedl, C. Social connectedness on Facebook—An explorative study on status message usage. In Proceedings of the 16th Americas Conference on Information Systems, Lima, Peru, 12–15 August 2010.

33. Krasnova, H.; Wenninger, H.; Widjaja, T.; Buxmann, P. Envy on Facebook: A Hidden Threat to Users' Life Satisfaction? In Proceedings of the 11th International Conference on Wirtschaftsinformatik, Leipzig, Germany, 27 February–1 March 2013.

34. Cook, K.S.; Cooper, R.M. Experimental studies of cooperation, trust, and social exchange. In *Trust and Reciprocity: Interdisciplinary Lessons from Experimental Research*; Russell Sage: New York, NY, USA, 2003; Volume VI, pp. 209–244.

35. Hardin, R. Gaming Trust. In *Trust and Reciprocity: Interdisciplinary Lessons from Experimental Research*; Russell Sage: New York, NY, USA, 2003; Volume VI, pp. 80–101.

36. Luo, J.D. Particularistic trust and general trust: A network analysis in chinese organizations. *Manag. Organ. Rev.* **2005**, *1*, 437–458, doi:10.1111/j.1740-8784.2005.00022.x.

37. Igarashi, T.; Kashima, Y.; Kashima, E.S.; Farsides, T.; Kim, U.; Strack, F.; Werth, L.; Yuki, M. Culture, trust, and social networks. *Asian J. Soc. Psychol.* **2008**, *11*, 88–101, doi:10.1111/j.1467-839X.2007.00246.x.

38. Yamagishi, T.; Kikuchi, M.; Kosugi, M. Trust, Gullibility, and Social Intelligence. *Asian J. Soc. Psychol.* **1999**, *2*, 145–161, doi:10.1111/1467-839X.00030.

39. Putnam, R.D. Bowling alone: America's declining social capital. *J. Democr.* **1995**, *6*, 65–78, doi:10.1353/jod.1995.0002.

40. Inkpen, A.C.; Tsang, E.W.K. Social Capital, Networks, and Knowledge Transfer. *Acad. Manag. Rev.* **2005**, *30*, 146–165, doi:10.2307/20159100.

41. Tov, W.; Diener, E. The well-being of nations: Linking together trust, cooperation, and democracy. *Cooperation: The Political Psychology of Effective Human Interaction*; Sullivan BA, Snyder, M., and Sullivan, J.L., Eds.; Blackwell: Malden, MA, USA, 2008; pp. 323–342.

42. Gilbert, E.; Karahalios, K. Predicting tie strength with social media. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Boston, MA, USA, 6 April 2009; pp. 211–220.

43. Wu, S.-Y.; Wang, S.-T.; Liu, F.; Hu, D.-C.; Hwang, W.-Y. The Influences of Social Self-Efficacy on Social Trust and Social Capital—A Case Study of Facebook. *Turk. Online J. Educ. Technol. TOJET* **2012**, *11*, 246–254.

44. Himelboim, I.; Lariscy, R.; Tinkham, S.; Sweetser, K. Social Media and Online Political Communication: The Role of Interpersonal Informational Trust and Openness. *J. Broad. Electron. Media* **2012**, *56*, 92–115, doi:10.1080/08838151.2011.648682.

45. Hampton, K.; Goulet, L.S.; Rainie, L.; Purcell, K. Social networking sites and our lives. *Pew Interent Am. Life Proj. Proj. PewResearchCenter* **2011**, *1*, 1-85.

46. Dwyer, C.; Hiltz, S.; Passerini, K. Trust and privacy concern within social networking sites: A comparison of Facebook and MySpace. In Proceedings of the AMCIS 2007, Keystone, CO, USA, 10–12 August 2007; p. 339.

47. Manca, S.; Ranieri, M. Identity, Credibility, and Trust in social networking sites: Old Issues, New Mechanisms, and Current Challenges for Privacy and Security. In *Social Network Engineering for Secure Web Data and Services*; Caviglione, L., Coccoli, M., Merlo, A., Eds.; Information Science Reference (an imprint IGI Global): Hershey, PA, USA, 2013. doi:10.4018/978-1-4666-3926-3.ch002.

48. Alzboon, M.; Abu-Seileek, D. The Effect of Social Network Sites on the Attitudes of University Students in Jordan. *Muta Res. Stud. Ser. Humanit. Soc. Sci.* **2013**, *28*, 323–359.

49. Malik, K.; Waglé, S. Civic engagement and development: Introducing the issues. In *Capacity for Development: New Solutions to Old Problems*; UNDP: New York, NY, USA, 2002; pp. 85–99.

50. Park, N.; Kee, K.F.; Valenzuela, S. Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology Behav. Impact Internet Multimed. Virtual Real. Behav. Soc.* **2009**, *12*, 729, doi:10.1089/cpb.2009.0003.

51. Nyland, R.; Marvez, R.; Beck, J. MySpace: Social networking or social isolation. In Proceedings of the AEJMC Midwinter Conference; Reno, NV, USA, 23–24 February 2007; pp. 23–24.

52. Raacke, J.; Bonds-Raacke, J. MySpace and Facebook: Applying the uses and gratifications theory to exploring friend-networking sites. *CyberPsychology Behav. Impact Internet Multimed. Virtual Real. Behav. Soc.* **2008**, *11*, 169, doi:10.1089/cpb.2007.0056.

53. Canon, J. Social networking sites and the culture of voluntary work in Algerian society. *Al Hikmah J.—Foundation of the Al Hikmah Treasures for Publication and Distribution—Algeria*, **2014**, pp. 242–266.

54. Price, V.; Cappella, J.N.; Nir, L. Does Disagreement Contribute to More Deliberative Opinion? *Political Commun.* **2002**, *19*, 95–112, doi:10.1080/105846002317246506.

55. Cho, J. Media, interpersonal discussion, and electoral choice. *Commun. Res.* **2005**, *32*, 295–322, doi:10.1177/0093650205275382.

56. Ancu, M.; Cozma, R. MySpace Politics: Uses and Gratifications of Befriending Candidates. *J. Broadcast. Electron. Media* **2009**, *53*, 567–583, doi:10.1080/08838150903333064.

57. Smith, A.W.; Rainie, H. *The Internet and the 2008 Election*; Pew Internet & American Life Project: Washington, DC, USA, 2008.

58. Pasek, J.; More, E.; Romer, D. Realizing the Social Internet? Online Social Networking Meets Offline Civic Engagement. *J. Inf. Technol. Politics* **2009**, *6*, 197–215, doi:10.1080/19331680902996403.

59. Geist, M. How Obama's Using Tech to Triumph. Available online: https://www.thestar.com/opinion/columnists/2008/02/04/how_obama_is_using_tech_to_triumph.html (accessed on 16 January 2021).

60. Al-Arabi, H.; Salem, A. The role of social networking sites in forming the political consciousness of students at Egyptian universities. In Proceedings of the 7th Arab Scientific Conference on Education and the Culture of Social Networking, Sohag, Egypt, 24–25 April year; pp. 249–346.

61. Diener, E.; Emmons, R.; Larsen, R.; Griffin, S. The satisfaction with Life Scale. *J. Personal. Assess.* **1985**, 49, 71–75, doi:10.1207/s15327752jpa4901_13.

62. Diencr, E.; Sandvik, E.; Pavot, W. Happiness Is the Frequency, Not the Intensity, of Positive Versus Negative Affect. In *Subjective Well-Being: An Interdisciplinary Perspective*; Strack, F., Argyle, M., Schwarz, N., Eds.; Pergamon: Oxford, UK, 1991; pp. 119–139, doi:10.1007/978-90-481-2354-4 10.

63. Rosenberg, M. Misanthropy and political ideology. *Am. Sociol. Rev.* **1956**, *21*, 690–695, doi:10.2307/2088419.

64. Burns, N.; Kinder, D. *Social Trust and Democratic Politics*; Report to the National Election Studies Board based on the 2000 NES Special Topic Pilot Study; The Annual Meeting of the Mid-West Political Science Association: Chicago, IL, USA, 2000; Volume 22, pp. 1–34.

65. Andolina, M.; Keeter, S.; Zukin, C.; Jenkins, K. *A Guide to the Index of Civic and Political Engagement*; The Center for Information and Research on Civic Learning and Engagement: College Park, MD, USA, 2003.

66. Minichiello, V.; Aroni, R.; Hays, T.N. *In-Depth Interviewing: Principles, Techniques, Analysis*, 3rd ed.; Pearson Education: Sydney, Australia, 2008.

67. Cohen, J. *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed.; Lawrence Erlbaum Associates: Hillsdale, NJ, USA, 1988.

68. Hughes, D.J.; Rowe, M.; Batey, M.; Lee, A. A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Comput. Hum. Behav.* **2012**, *28*, 561–569, doi:10.1016/j.chb.2011.11.001.

69. Mazumdar, S.; Thakker, D. Citizen Science on Twitter: Using Data Analytics to Understand Conversations and Networks. *Future Internet* **2020**, *12*, 210, doi:10.3390/fi12120210.

70. Burke, M.; Marlow, C.; Lento, T. Feed me: Motivating newcomer contribution in social network sites. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, Boston, MA, USA, 4–9 April 2009; pp. 945–954.

71. Otaibi, J. *The Impact of Facebook on Saudi University Students*; King Saud University: Riyadh, Saudi Arabia, 2008.

72. Heer, J.; Boyd, D. Vizster: Visualizing online social networks. In Proceedings of the IEEE Symposium on Information Visualization (InfoVis 05), Minneapolis, MN, USA, 23–25 October 2005; pp. 32–39.

73. Saif, T. *Diversity in Saudi Society Leads to the World*; AAFAQ Center for Research & Studies. Available online: http://aafaqcenter.com/index.php/category/76 (accessed on 12 July 2013).

74. Lederer, K. Pros and cons of social media in the classroom. *Campus Technol.* **2012**, *25*, 1–2.

75. Asad, S.; Al Mamun, M.A.; Clement, C.K. The Effect of Social Networking Sites to the Lifestyles of Teachers and Students in Higher Educational Institutions. *Int. J. Basic Appl. Sci.* **2012**, *1*, 498–510, doi:10.14419/ijbas.v1i4.374.

76. Khalil, M. Life satisfaction among users of social networking sites for students of the Faculty of Education, Zagazig University. In Proceedings of the 4th International Scientific Conference (Arab VII) "Education and Culture of Social Networking", Sohag, Egypt, 24–25 April year.

77. Juweir, I. Changes in Saudi Society. Available online: http://ibrahim-aljuwair.com/home/?content=184 (accessed on 17 October 2013).

78. Al-Sadhan, A.N. *Resistance to Change in Saudi Society: The Example of Opening Girls' Schools*, 1st ed.; King Fahd National Library: Riyadh, Saudi Arabia, 2010.

79. Jamil, M. Saudi society and the problematic change of girls' education: An example. *Al-Marafh* **2011**. Available online: http://www.almarefh.net/show_content_sub.php?CUV=380&Model=M&SubModel=133&ID=924&ShowAll=On (accessed on 10 March 2013).

80. Al-Salumi, M. Saudi society and Ideological change: Review (Resistance to change in Saudi society: The example of opening girls' schools). *Al-Bayan Lond.* **2012**, *299*, 84–91.

81. ACSRC. *Uses of the Internet in Saudi Society (Use, Motives, Types and Potential Impacts)*; Asbar Center for Studies & Research: Riyadh, Saudi Arabia, 2004; p. 573.

82. Kasuma, S.; Wray, D. An informal Facebook Group for English language Interaction: A study of Malaysian university students' perspectives, experiences and behaviours. **2015**, 1–10, doi:10.5176/2251-1814_EeL15.4.

83. Al-Shadi, S. The Saudi cultural scene. *Okaz*. **2012**, *2*. Available online: http://www.okaz.com.sa/new/issues/20120917/Cat20120917113665.htm (accessed on 17 September 2013).

84. Al-Manjoomi, M. Customs and traditions barring change in our Saudi society. *Al-majalla* **2010**. Available online: http://arb.majalla.com/category/shooun-saudia/islah-kadhai (accessed on 8 January 2013).

85. Gabbert, T.I.; Metze, B.; Buhrer, C.; Garten, L. Use of social networking sites by parents of very low birth weight infants: Experiences and the potential of a dedicated site. *Eur. J. Pediatrics* **2013**, *172*, 1671–1677, doi:10.1007/s00431-013-2067-7.

86. Albalawi, Y.; Nikolov, N.S.; Buckley, J. Trustworthy Health-Related Tweets on Social Media in Saudi Arabia: Tweet Metadata Analysis. *J. Med. Internet Res.* **2019**, *21*, e14731, doi:10.2196/14731.

87. Alghamdi, A.A.; Plunkett, M. Perceptions of Saudi Male and Female Postgraduate Students Regarding the Impact of Social Networking Sites and Apps on their Academic Life: A Study of Umm Al-Qura University–Makkah. *Int. J. Emerg. Technol. Learn. (iJET)* **2018**, *13*, 19–40.

88. Stutzman, F. The Vibrancy of Online Social Space. In *Mobilizing Generation 2.0: A Practical Guide to Using Web 2.0: Technologies to Recruit, Organize and Engage Youth*; Rigby, B., Ed.; Jossey-Bass: New York, NY, USA, 2008.

89. Hewitt, A.; Forte, A. Crossing boundaries: Identity management and student/faculty relationships on the Facebook. *Poster presented at CSCW, Banff, Alberta*, 2006, pp. 1–2.

90. Cain, J. Online social networking issues within academia and pharmacy education. *Am. J. Pharm. Educ.* **2008**, *72*, 1–6, doi:10.5688/aj720110.

91. Gross, R.; Acquisti, A. Information revelation and privacy in online social networks. In Proceedings of the 2005 ACM Workshop on Privacy in the Electronic Society, Alexandria, VA, USA, 7 November 2005; pp. 71–80.

92. Nyblom, P.; Wangen, G.; Gkioulos, V. Risk Perceptions on Social Media Use in Norway. *Future Internet* **2020**, *12*, 211, doi:10.3390/fi12120211.

93. Debatin, B.; Lovejoy, J.P.; Horn, A.K.; Hughes, B.N. Facebook and online privacy: Attitudes, behaviors, and unintended consequences. *J. Comput. Mediat. Commun.* **2009**, *15*, 83–108, doi:10.1111/j.1083-6101.2009.01494.x.

94. Ibrahim, Y. The new risk communities: Social networking sites and risk. *Int. J. Media Cult. Politics* **2008**, *4*, 245–253, doi:10.1386/macp.4.2.245_3.

95. Miller, R.; Parsons, K.; Lifer, D. Students and social networking sites: The posting paradox. *Behav. Inf. Technol.* **2010**, *29*, 377–382, doi:10.1080/01449290903042491.

96. Shen, K.N.; Khalifa, M. Facebook Usage among Arabic College Students: Preliminary Findings on Gender Differences. *Int. J. e-Bus. Manag.* **2010**, *4*, 53–65, doi:10.3316/IJEBM0401053.

97. Helliwell, J.F.; Putnam, R.D. The social context of well-being. *Philos. Trans. R. Soc. Lond. Ser. B Biol. Sci.* **2004**, *359*, 1435–1446, doi:10.1098/rstb.2004.1522.

98. Mahmood, K.S. The impact of social networking on the social values of university youth. *J. Stud. Soc. Work Hum. Sci.* **2012**, *1*, 335–389.

99. Biddix, J.P. Technology uses in campus activism from 2000 to 2008: Implications for civic learning. *J. Coll. Stud. Dev.* **2010**, *51*, 679–693, doi:10.1353/csd.2010.0019.

100. Ke, L.; Starkey, H. Active citizens, good citizens, and insouciant bystanders: The educational implications of Chinese university students' civic participation via social networking. *Lond. Rev. Educ.* **2014**, *12*, 50–62.

101. Carter, M. How Twitter may have helped Nigeria contain Ebola. *BMJ Br. Med J.* **2014**, *349*, doi:10.1136/bmj.g6946.

102. Alanzi, T.; Alsaeed, B. Use of Social Media in the Blood Donation Process in Saudi Arabia. *J. Blood Med.* **2019**, *10*, 417–423, doi:10.2147/JBM.S217950.

103. Alshakhs, F.; Alanzi, T. The evolving role of social media in health-care delivery: Measuring the perception of health-care professionals in Eastern Saudi Arabia. *J. Multidiscip. Healthc.* **2018**, *11*, 473–479, doi:10.2147/JMDH.S171538.

104. Alebaikan, R.A. Perceptions of Blended Learning in Saudi Universities. Unpublished Ph.D. Thesis, University of Exeter, Exeter, UK, 2010.

105. Al-Saggaf, Y. The effect of an online community on an offline community in Saudi Arabia. *Electron. J. Inf. Syst. Dev. Ctries.* **2004**, *16*, 1–16, doi:10.1002/j.1681-4835.2004.tb00103.x.

106. Valenzuela, S. Unpacking the use of social media for protest behavior the roles of information, opinion expression, and activism. *Am. Behav. Sci.* **2013**, *57*, 920–942, doi:10.1177/0002764213479375.

107. Wojcieszak, M. 'Don't talk to me': Effects of ideologically homogeneous online groups and politically dissimilar offline ties on extremism. *New Media Soc.* **2010**, *12*, 637–655, doi:10.1177/1461444809342775.

108. Donnelly-Smith, L. Political engagement in the age of Facebook: Student voices. *Peer Rev.* **2008**, *10*, 37.

109. Al Turais, M.A. Enhancing the Peformance of SMEs in Saudi Arabia through Human Capital and Social-media Technology: A Conceptual Model. *Int. J. Res. Commer. Manag. Stud.* **2020**, *2*, 13–20, doi:10.38193/ijrcms.

110. Alaraifi, A. Conceptualizing the Assimilation and Risk of Online Social Media in Saudi Arabia: An Empirical Study. In *Eurasian Business Perspectives. Eurasian Studies in Business and Economics*; Bilgin, M.H., Danis, H., Demir, E., Eds.; Springer: Cham, Switzerland, 2020; Volume 14/2, pp. 201–218.

111. Cordesman, A.H. *Saudi Arabia; National Security in a Troubled Region*; ABC-CLIO, LLC: Santa Barbara, CA, USA, 2009.

112. Abu-katwah, A.; Al-Baz, A. A social Communication Network and its Effects on Intellectual Security for University Students in the Kingdom of Bahrain. *Arab. J. Ensuring Qual. Univ. Educ.* **2014**, *7*, 187–225.

113. Al-Abdulwahab, T. The Impact of Social Networks on the Detection of Corruption from the Perspective of Workers in the National Anti-Corruption Commission. Unpublished Master's Thesis, Naif Arab University for Security Sciences, Riyadh, Saudi Arabia, 2013.

114. Bertot, J.C.; Jaeger, P.T.; Grimes, J.M. Crowd-sourcing transparency: ICTs, social media, and government transparency initiatives. In Proceedings of the 11th Annual International Digital Government Research Conference on Public Administration Online: Challenges and Opportunities, Puebla, Mexico, 17–20 May 2010; pp. 51–58.

115. Alawaamleh, A. The Concept of Political Development among Students of Educational Sciences Colleges in Jordanian Universities. Unpublished Ph.D. Thesis, University of Jordan, Amman, Jordan, 2005.

116. Makarim, H. The Role of Media in the Formation of Political Awareness among University Students: An Empirical Study on Yemeni Universities' Students. Unpublished Master's Thesis, Institute of Research and Studies, Master's in Political Science, Cairo, Egypt, 2009.