



## Research article

# How do social media influencers change adolescents' behavior? An evidence from Middle East Countries

Abdullah M. Al-Ansi<sup>a,\*</sup>, Manar Hazaimeh<sup>b</sup>, Aseel Hendi<sup>c</sup>, Jebril AL-hrinat<sup>d</sup>, Ghadeer Adwan<sup>e</sup><sup>a</sup> Faculty of Education, Thamar University, Yemen<sup>b</sup> Department of Counseling and Educational Psychology, Yarmouk University, Irbid, Jordan<sup>c</sup> Industrial Engineering Department, The Hashemite University, Jordan<sup>d</sup> Faculty of Education, Arab American University, Palestine<sup>e</sup> Faculty of Education, Islamic University of Gaza, Palestine

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## ABSTRACT

Social Media Influencers (SMIs) refer to content creators, entertainment and art vloggers, online gamers, online streamers and any other activities related to social media. SMIs have gained significant portion of media today replacing tradition media and increasingly interacting in education, economy and entertainment world. The aim of this study is to investigate the influence of SMIs on adolescents' behavior including intellectual, social, ethical and healthy aspects from the adolescents' perception and perspectives in Middle East countries. Online survey included 27 items was structured and distributed in five Middle East countries. By using convenience sampling, 1612 adolescents (aged 12–22) have completed the questionnaire. Results revealed that SMIs have positive significant impact on adolescents' intellectual aspect while this impact was also significant but negative with different degrees on social, ethical health aspects of adolescents in Middle East countries. Results also revealed that Facebook, what's app and Instagram were the most dominants social media platforms used among adolescents in Middle East countries. This study yields major theoretical contribution as it explores the SMIs influence on adolescents in Middle East and building examination tool based on characteristics and culture of Middle East region.

## 1. Introduction

Depending on the nature of their content and use, social media influencers (SMIs) can be both a deterrent and supportive of adolescents' behavior. Social media has become an important network for communication, businesses, marketing, promotions, and entertainment. Social media overcomes many challenges related to traditional interaction (face-to-face interaction) in communication, relationships, sharing experiences, visibility, self-education, and real-time connection [1]. Furthermore, social media has many benefits including faster spreading of information, anytime anywhere connectivity, improving social and cultural relationships, and the ability to learn and explore new and empowering business growth [2–4]. On the other hand, some consequences related to ineffective usage of social media such as mental health issues, lack of real emotional connection, cyberbullying, diminishing of

\* Corresponding author.

E-mail addresses: [ebrar.ansi@yahoo.com](mailto:ebrar.ansi@yahoo.com), [abdullahalansi@umy.ac.id](mailto:abdullahalansi@umy.ac.id) (A.M. Al-Ansi).<https://doi.org/10.1016/j.heliyon.2023.e15983>

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thoughts and understanding, and laziness facilitation [5–8]. Recently with the availability of different social media applications, many ordinary people have been famous and some of them have a huge influence on society and families' especially young teenagers [9]. According to Freberg et al. [10], Social media influencers (SMIs) are endorsers who influence audience behavior through their videos, reels, posts, tweets, and massages. SMIs not only have an impact on the socio-cultural behavior of young people, but also, they have more influence extended to different fields including politics, marketing, education, product promotion, and tourism. Moreover, according to Blakemore & Mills [11]; Crone & Dahl [12]; Steinberg [13], adolescence is the period that starts with puberty and ends with becoming an adult where usually has biological period and socio-cultural offset.

Several studies have investigated the positive and negative aspects of social media and its impact on society, families, and children. According to Richards et al. [14], social media has a great impact on mental health related to the self-esteem and well-being of children and young people. More previous studies have investigated the impact of social media on different aspects including youth mental health [15], overcoming fake news [16], consumer acculturation [17], Panic during Covid-19 [18] and academic performance [19]. Furthermore, SMEs have a significant role in adolescents' behavior [20], purchase intentions of young people [21], online identity of adults [22], and reduction of risk perception [23]. There is actual impact of Social media or SMIs towards adolescent' behaviors represented as positive and negative effects. The positive effects include development of their intellectual and social skills through facilitating learning and practices, quality of collaboration for students, enhancing communication among students, using these online platforms instead of paperwork and online examination [24,25]. On the other hand, the negative effects represent behavioral health and morality include time consuming, addiction, violation, inappropriate content and chatting with stranger that may lead to kidnapping or murder [14,26].

The problem of study is represented in how adolescents' behavior is affected by social media influencers including intellectual, social, moral, and health aspects in various domains whether artistic, sports, media, lyrical, cinematic, and others on the platforms of social networking (e.g. Facebook, Twitter, Instagram, YouTube). There are no prior studies were conducted in Middle East countries regarding impact of SMIs on adolescents' behavior and this research is the first to give an empirical evidence from the region. Furthermore, this research focuses on four aspects of adolescents' behavior while prior literatures were focused on one aspect including mental health [15], learning [27], political behavior [28], psychological well-being [29], sleep quality [30] and engagement with unhealthy food and beverage brands [31]. This research fills the gap in literature and also contributes to schools, families and interested scholars to understand more about adolescents' behavior. The aim of this study is to determine the impact of social media influencers on the intellectual, social, moral and health aspects of adolescents among school students in Palestine, Jordan, Yemen, Saudi Arabia, and Egypt.

## 2. Literature review

### 2.1. Intellectual impact of social media influencers

Because of the rapid development of the Internet and social media, social media influencers have become a common popular culture; they have become a modern industry, and interactions between social media celebrities and their followers can rapidly change the actions and attitudes of followers [32]. The article by Ref. [33] the dominant themes of research on social media include a teaching and learning tools, adoption of Information and Communication Technology (ICT) in education and digital literacy while the dominant themes were related to youth behaviors [34], social, moral and health issues [35]. Prior studies investigated the use of social media in enhancing and developing learning skills among adolescents and enhancing their intellectual thinking [36]. Many recent studies point out significance of social media platforms inside and outside classrooms which contribute to the development of intellectual aspects of young generation [37,38].

Considering the current state of technology on a global scale is something that will not only grow but will also consume people's lives in the future, especially adolescents [39]. So it's better to be on the cutting edge and move with the adolescents than against them, as when adolescents are engaged, they learn better, and they are used to safe and beneficial social media, social education should replace online procrastination because social media encourages collaboration rather than cliques, and cell phones are not the enemy. No secret that social media should be embraced, as well as that students, should be taught how to use it and also become responsible, experienced, and positive learners through the use of social networking and technology [40]. New social media is a setting in which people from all over the world can communicate, exchange messages, share knowledge, and interact regardless of the distance that separates them [41]. Intercultural adaptation is the process of promoting understanding through interaction in order to increase fitness in order to meet the demands of a new cultural environment [42]. According to Sawyer and Chen [43], people use new social media to become more integrated into the host culture while adapting and maintaining connections to their home countries. Intercultural adaptation entails the process of fostering understanding through interaction in order to be better suited to the demands of a new cultural environment. Sawyer and Chen [43] also indicated that people frequently use new social media to connect with their home countries and better integrate into the host culture while adjusting.

**H1.** SMIs have significant influence on intellectual aspect of adolescents.

### 2.2. Social impact of social media influencers

Social media influences not only our relationships with others but also how we perceive ourselves and the world around us.. [44] Adolescent had been determined to be lonelier, greater depressed, and have poorer social abilities, indicating that their terrible traits

had been a result of their immoderate use of the Internet [45]. Excessive use of social networking sites has a significant impact on the lives of adolescents, with negative consequences for their personal, and psychosocial well-being [46]. According to Seo et al. [47], that as cell phone addiction becomes more problematic, more people will experience lower self-esteem and emotional well-being. The reduced emotional strength of mind is an aspect effect of phone overuse, that is described via way of means of processes: a reduced cognitive reappraisal and elevated emotional suppression, each of which results in an incapability to alter feelings properly.

Overuse of a Smartphone does not fully account for depression or anxiety; rather, other intervening variables may be involved. This relationship appears to be explained by decreased behavioral activation and increased emotion suppression only in depression [48]. Problematic Smartphone use can interfere with social activities and other enjoyable activities, lowering behavioral activation and increasing depression [49]. Emotional suppression, a correlate of problematic use, may disrupt adaptive emotion processing, which has been linked to increased depression [50]. The study by Gapsiso & Wilson [51] discovered that teenagers' use of the net has a few effects on face-to-face conversations with their pals and additionally seems to weaken the binds that bind them with their own circle of relatives and pals. The study concludes that teenagers' use of the internet has reduced the amount of time they spend having face-to-face conversations with their friends and family members. According to Yaakup [52], The positive effects of social media on teenagers include gaining knowledge, improving relationships, finding work, staying in touch with the world, and enhancing social media as e-commerce [53]. While the detrimental effects of social media on teenagers have been identified as cyber bullying, hacking, addiction, cheating, and humiliation.

**H2.** SMIs have significant influence on social aspect of adolescents.

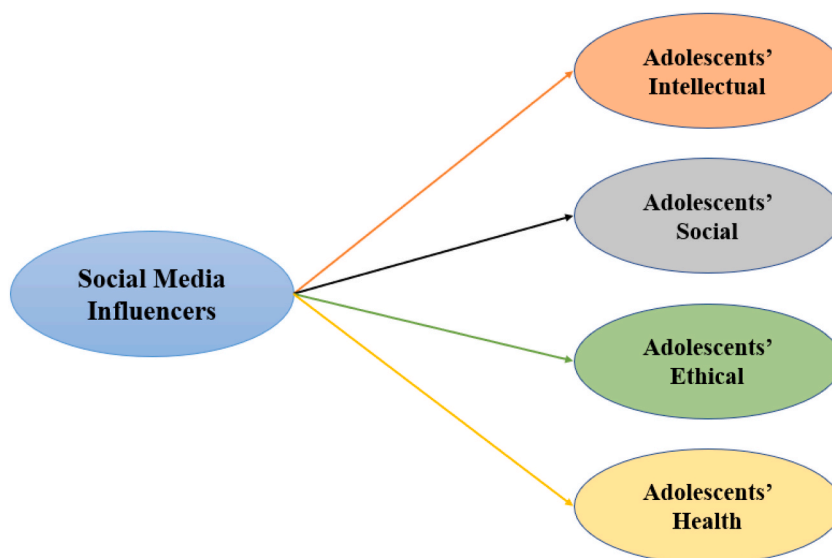
*2.3. Ethical impact of social media influencers*

Scientific interest in the influence of celebrities on individuals, communities, and organizations to create, share, and consume information from each other has increased, where social media is used for recreational activities among different age groups [54,55]. Furthermore, its impact was clear on the life of the individual in all societies, whether it was positive or negative [56]. Adolescents' use of social networking sites and their reactions due to influencers have different aspects, the most important of which is an ethical aspect [57]. As interaction increases among adolescents and influencers on social media leads to creating in adolescents' different images of situations according to the different interactive tools that each site provides and in proportion to adolescent's attitudes toward posting or tweeting [58]. It all takes place in a rising interactive format that focuses more and more on content used of influencers [59]. The idea of a teenager being influenced by certain celebrities, may in itself be disturbing, especially for parents [60,61]. Despite there are many beneficial uses of social media but sometimes social media may contribute to moral decay and decadence among adolescents in many countries [62]. This undoubtedly stems from the blind imitation of celebrities who may differ in their way of life, ideas, and beliefs, which may cause a state of value tension, anxiety, and distraction in the adolescent, which makes his convictions and constants confused and hesitant [63].

**H3.** SMIs have significant influence on ethical aspect of adolescents.

*2.4. Healthy impact of social media influencers*

Social media has become a part of our life in recent years, even among adolescents [64]. Media devices and internet access have



**Fig. 1.** Framework of research.

grown quickly since the start of the COVID-19 pandemic period [65]. Adolescents are linked to the internet on their own, mostly through social networking sites such as Facebook, Tik Tok, YouTube, and others [66]. Because the majority of researches on the relationship between social media activity and psychosocial adjustment has been conducted on adolescents, it is unclear how well the findings apply to the generation of adolescents who have never known a world without such platforms and are assumed to have frequent contact with social media [43]. However, there is some evidence of a broad link between adolescent social media use and unfavorable health factors (eg, sleep problems, anxiety, and low self-esteem) [67,68]. Adolescents daily and continuous follow-up of celebrities on social communication has become like drinking water, but more, and this is one of the most serious problems confronting this group, causing them to have many health problems related to sleep, addiction, anxiety [69], headaches, tooth decay, and isolation from others [70].

**H4.** SMIs have significant influence on health aspect of adolescents.

Based on objectives and literature review the conceptual framework is designed as Fig. 1. Social media influencers are independent variable and the four aspects of adolescent's behavior are as dependent variables.

### 3. Methodology

This study is categorized under qualitative approach were researchers used surveys in some Arabic countries. Questionnaires were designed based on previous studies and with help of expires in the education and social media. Researchers used online and offline surveys and visited some primary, elementary and high schools in mentioned countries. By adopting random sampling technique, data were collected during two months from September to November 2022. This study used SPSS and AMOS 25 to perform both measurement validation, or confirmatory factor analysis (CFA), and linear regression analysis testing. This study also used descriptive statistical analysis without consideration to demographics such as gender, age and nationality.

#### 3.1. Sample and participants

Sample consisted of 1612 of adolescent from five Middle East Countries; Table 1 below shows the distribution of the sample depending on the personal information including gender, age, spending hours on social media daily and country.

According to Table 1, male adolescents were dominated with 72.9%. Students from primary and high schools were also more than those who were in elementary level. These differences are due to correct answers and distribution of surveys. The table also shows that 31% of adolescents spend more than 3 h/day in social media. These refer to different age level among them where in secondary schools more students are freely use their phones in apposite primary and elementary schools where parents have put some restrictions or control on them. Finally, Researches tried to extend surveys in more Middle East Countries, but it was hard to collect data where some participants form other Middle East Countries didn't reach the minimum level to include them in data analysis. The majority of participants were from both Jordan and Palestine in addition to Saudi and Yemen.

#### 3.2. Procedure and measures

Based on the definition of social media influencers, SMIs are online personalities in social media (e.g. Face bookers, YouTubers, Instagrammers, etc. ...) or celebrities who create valuable content in specific domain [21]. Participants were aware before taking surveys of the definition of SMIs where they should at least follow one or more of them. Questionnaires included two parts: first is about personal information such as gender, age, hours/day and nationality in addition to which social media they usually use. The second part included the questions of study where survey was divided into five parts; Social media influencers, intellectual, social, ethical and healthy aspects. The survey took almost 10–15 min to answer. The questions were also checked double time by expertise from different background in Middle East Countries to ensure all items are clear and easy to understand and answer.

**Table 1**  
Demographics of sample.

Measure	Category	Frequency	Percentage
Gender	Female	437	27.1
	Male	1175	72.9
Age	12–15	604	37.5%
	16–18	356	22.1%
	>18	652	40.4%
	<1	282	17.5%
Hours/Day	1–2	467	29.0%
	2–3	354	22.0%
	>3	509	31.6%
	<1	282	17.5%
Country	Jordan	505	31.3%
	Palestine	501	31.1%
	Saudi Arabia	234	14.5%
	Yemen	216	13.4%
	Egypt	156	9.7%

To measure SMIs from adolescents' perspective, Researchers designed tool included 9 items based on Lou and Kim [21]. All items were measured by using Likert scale "strongly disagree = 1, to strongly agree = 5". Intellectual, social, ethical and healthy aspects were measured by the same scale and 7 items each. The role of SMIs in impacting adolescents' intellectual aspect was determined by 7 items extracted from Clark et al. (2001) and Gentina et al. (2018). Social aspect was revised and built again to be more appropriate to this study from Rosaen and Dibble (2016). In addition, ethical aspect was measured by using 7 items and the same Likert scale were these items were designed and revised by expertise related to some ethical issues in Middle East Countries. Finally, the health aspect where researchers adopted some items from Lim et al. [66] and Bozzola et al. [70]. Participants were able to give their own opinions clearly by agreeing or not agreeing to the statements of questionnaires.

### 3.3. Reliability test

In order to ensure the reliability (R. test) of the study, tool has been applied on the exploratory sample consisting of (100) of adolescent in Middle East Countries who have been selected from outside the original sample, then Pearson correlation coefficient was calculated between the two applications to extract the reliability by (R. test). Table 2 shows that the Cronbach's alpha coefficient "acceptable for the purposes of the study, where Cronbach's alpha reliability coefficient is acceptable if exceeded (0.70).

### 3.4. Exploratory factor analysis

Before conducting the exploratory factor analysis (EFA), we performed the Kaiser–Meyer–Olkin (KMO) test Kaiser [75], to measure the sampling adequacy and the Bartlett's test of sphericity [71] to investigate the factorability of the data. As depicted in Table 3, KMO results of high value (almost 0.904), which is higher than the minimum requirement of 0.7 [72] implied the suitability of the data for EFA and a significant test statistic was indicated by Bartlett's test of sphericity ( $p < 0.001$ ).

In the EFA, all 27 items were subjected to principal component analysis (PCA) with Promax and Kaiser Rotation. The minimum factor loading cut off point this study was 0.3. The final five -factor model with the remaining 27 items accounted for 50.861% of the total variance.

Furthermore, Table 4 presents the item wordings, factor loadings, variance explained, and reliability for each factor. As depicted, the factor loadings ranged from 0.310 to 0.778, meaning that all items were good measures of their respective factors [76]. As indicated by Cronbach's alphas that were above the threshold value of 0.70, all factors were internally consistent and well defined by their items [73].

## 4. Results and discussion

Before conducting descriptive analysis, we asked participants to indicate which of social media platforms they usually use. Fig. 2 illustrates participants' answers regarding this question which also shows they use more than one platform simultaneously. For instant, Facebook users are 1078 of the sample which includes 1612. Facebook, what's app and Instagram were the most dominant platforms used by adolescents in Middle East Countries.

### 4.1. Descriptive statistical analysis

DSA in this study includes mean and standard deviation to describe SMIs and their impact on intellectual, social, ethical and healthy aspects of adolescents in Middle East Countries. Every aspect was described separately by each item of the questionnaires. Tables 5–9 illustrate mean and SD for each item. The scale was corrected and adopted to measure "Adolescent behavior" for five Likert scale, the means as: less than 2.33-low: 2.34–3.66- medium: 3.67–5.00 high.

Results of descriptive statistics for intellectual aspect of adolescents indicate that they learn more and expand their thinking and knowledge while they follow SMIs. Table 5 shows every item used to describe the intellectual aspect of adolescents where they believe that SMIs contribute to their awareness and general cultural knowledge. All items were medium with light differences except learning achievement where they think it doesn't have that impact.

According to Table 6, the total mean was 3.58 out of 5 which indicate medium agreement degree. Regarding items, participants agree more with that aggressive behavior and violence was resulted as they follow social media influences. While the second and third high ranked items explain that adolescents see SMIs as their role modal in their life and they try to imitate them. The lowest mean was

**Table 2**  
Reliability test (cronbach alpha).

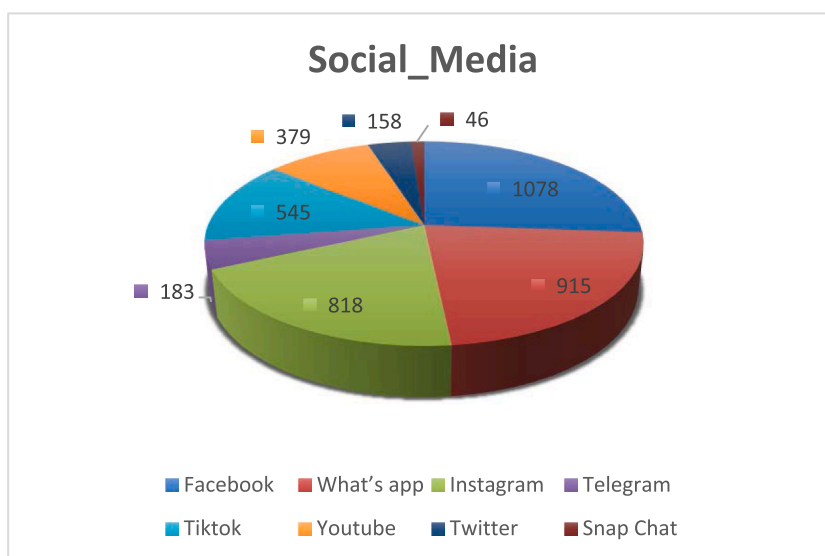
Domain	Cronbach Alpha	Correlation Test R. test	N of Items
Intellectual	0.753	0.808	7
Social	0.731	0.738	6
Ethical	0.873	0.821	7
Healthy	0.883	0.845	7
<b>Total "Adolescent behavior"</b>	<b>0.864</b>	0.806	27
Social Media Influences	0.832	0.828	9

**Table 3**  
Kaiser–Meyer–Olkin (KMO) sample adequacy test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.904
Bartlett's Test of Sphericity	Approx. Chi-Square	15876.566
	df	351
	Sig.	0.000

**Table 4**  
Exploratory Factor Analysis (EFA) on the 27-item and reliability.

Factor/Item <sup>1</sup>	Factor Loading	Eigen Value	Variance Explained
<b>Ethical</b>			
a1	0.547	7.115	14.862
a2	0.611		
a3	0.545		
a4	0.710		
a5	0.778		
a6	0.762		
a7	0.673		
<b>Social</b>			
b1	0.437	3.318	14.776
b2	0.349		
b4	0.395		
b5	0.665		
b6	0.776		
b6	0.776		
<b>Intellectual</b>			
c1	0.749	1.842	12.647
c2	0.787		
c3	0.561		
c4	0.310		
c5	0.759		
c6	0.698		
c7	0.750		
<b>Healthy</b>			
d1	0.495	1.458	8.576
d2	0.668		
d3	0.658		
d4	0.733		
d5	0.746		
d6	0.764		
d7	0.672		



**Fig. 2.** Social media usage among adolescents in middle east countries.

**Table 5**  
Means and SD for “Intellectual” domain items.

Rank	No	Items	Mean	Standard. Deviation	Agreement Degree
1	7	My follow-up to SMIs creates a kind of awareness about the issues and situations taking place in the Arab world and abroad.	3.46	1.24	Medium
2	5	My latest follow-up to social media celebrities is a kind of cultural openness and entry of new terms into my dictionary.	3.41	1.24	Medium
3	6	Follow-up to SMIs affected the development of my ability to dialogue and discussion.	3.18	1.29	Medium
4	2	SMIs have contributed to increasing my awareness of the news and what is happening in the world.	3.10	1.30	Medium
5	1	Social media celebrities have contributed to my general culture and knowledge.	2.93	1.37	Medium
6	4	Following celebrities on social media creates a generation influenced by customs and traditions that are different from what I live in my country.	2.73	1.33	Medium
7	3	Watching celebrities on social media increased my learning achievement.	2.31	1.19	low
Total Means			3.02	0.87	Medium

related to the socialization with family where they think it is less important.

In [Table 7](#), the total means for “Intellectual” domain reached 3.20 by medium agreement degree. The highest means was 3.46 for item 7 “ My follow-up to SMIs creates a kind of awareness about the issues and situations taking place in the Arab world and abroad ” by medium agreement degree, on the other hand, the lowest means was 2.31 for item 3 “ Watching celebrities on social media increased my academic achievement ” by low agreement degree.

[Table 8](#) shows that the highest means reached 3.32 out of 5 for item 5 “ I feel nervous and psychological pressure when I watch the content of social media celebrities for long time ” by medium agreement degree, while the lowest means was 2.95 for item 6 “ I get a headache when I keep following trends and news of SMIs ” by medium agreement degree. The total means for “Healthy” domain reached 3.16 by medium agreement degree.

In [Table 9](#), means and standard deviation for each item of Social Media Influences were calculated. The total mean was 2.84 which is medium. The highest means reached 3.44 out of 5 for item 9 which explains the stress and anxiety of adolescents while they interact with SMIs by medium agreement degree, while the lowest means was 2.30 for item 6.

#### 4.2. Hypotheses testing

To indicate the influence of SMIs on adolescents’ intellectual, social, ethical and healthy aspects, linear regression analysis was conducted. [Table 10](#) explains this impact and furthermore, the analysis was carried out once more by using Amos 25 to describe the correlations among each variable [Fig. 3](#).

To test hypotheses, regression analysis was conducted for each dependent variables separately. Results as in [Table 10](#) indicate that SMIs have significant influence on behavioral aspect of adolescents where  $p < 0.05$ . Moreover, SMIs have negative impact on adolescents’ social, ethical and healthy aspects with ( $\beta = - 0.51, - 0.18$  and  $- 0.24$ ) respectively. On the other hand, the impact of SMIs on adolescents’ intellectual aspect was positive with ( $\beta = 0.52$ ). These results reveal that SMIs have significant impact on adolescents and this impact has positive and negative outcomes. Based on [Table 10](#) and additional illustration in [Fig. 3](#), we concluded that  $H_1, H_2, H_3$  and  $H_4$  were not rejected and that explains the significant impact of SMIs on adolescents’ behavior. Furthermore,  $R^2$  for intellectual and social domains were 0.27 and 0.26 respectively which explain almost  $\frac{1}{4}$  of adolescents’ behavior while ethical and healthy domains explain 3% and 6% respectively.

### 5. Discussion

Social media influencers, video gamers and digital content creators have gained much fame and popularity in Middle East countries where they have attracted millions of followers of adolescents and young people. The most dominant category of those followers are

**Table 6**  
Means and SD for “Social” domain items.

Rank	No	Items	Mean	Standard. Deviation	Agreement Degree
1	1	I learned aggressive behavior, violence and cruelty as a result of following SMIs.	3.90	1.10	Medium
2	7	I see the SMIs as a role model for me in my life.	3.88	1.12	Medium
3	5	I imitate celebrities in clothing, appearance, and personal belongings (such as mobile phones, games, etc.)	3.71	1.19	Medium
4	6	I like to compare myself with and do what my favorite celebrity does.	3.68	1.24	Medium
5	2	I became introverted (sitting alone in the room).	3.23	1.34	Medium
6	4	My activities and interactions with my family have declined since following celebrities and I prefer staying at home rather than going out for a walk.	3.08	1.31	Medium
Total Means			3.58	0.80	Medium

**Table 7**  
Means and SD for “Ethical” domain items.

Rank	No	Items	Mean	Standard. Deviation	Agreement Degree
1	3	I notice that some celebrities use unappropriated words that cause pollution and I am affected by it.	3.64	1.30	Medium
2	5	Following celebrities on social media motivates me to bully others.	3.51	1.32	Medium
3	4	I feel uncomfortable and anxious when the internet is out.	3.42	1.27	Medium
4	6	Following social media celebrities distracts me and I lose my focus.	3.39	1.33	Medium
5	7	I notice from following social media celebrities the spread of rumors and unrealistic views about the lives of others.	3.02	1.39	Medium
6	2	I think that following celebrities on social media is causing me to neglect religious rituals.	2.88	1.36	Medium
7	1	I think following SMIs weakens family ties and reduces my time with family.	2.52	1.28	Medium
Total Means			3.20	0.92	Medium

**Table 8**  
Means and SD for “Healthy” domain items.

Rank	No	Items	Mean	Standard. Deviation	Agreement Degree
1	5	I feel nervous and psychological pressure when I watch the content of social media celebrities for long time.	3.32	1.25	Medium
2	4	I feel isolated (autistic) from society when I follow social media celebrities for long time.	3.29	1.26	Medium
3	7	My eyes become red when I keep following social media celebrities’ news and videos.	3.20	1.29	Medium
4	1	I think that following-up of SMIs is causing a kind of addiction.	3.16	1.29	Medium
5	3	I get frustrated and depressed when I follow SMIs for a long time.	3.09	1.30	Medium
6	2	Following SMIs contributed to my lack of sleep.	3.08	1.28	Medium
7	6	I get a headache when I keep following trends and news of SMIs.	2.95	1.30	Medium
Total Means			3.16	0.92	Medium

**Table 9**  
Means and SD for Social Media Influencers items.

Rank	No	Items	Mean	Standard. Deviation	Agreement Degree
1	9	Following celebrities reduces my stress and anxiety and helps me study better.	3.44	1.31	Medium
2	8	I constantly follow SMIs’ content for entertainment and fun.	3.30	1.25	Medium
3	5	I enjoy watching videos and posts of social media influencers.	3.17	1.24	Medium
4	4	I follow different celebrities’ pages in social media (Facebook, YouTube, etc.).	2.82	1.27	Medium
5	1	I love following social media influencers on a daily basis.	2.75	1.25	Medium
6	7	I feel that the content provided by social media influencers is useful and purposeful.	2.73	1.23	Medium
7	2	I always interact with my favorite star’s content (SMIs) by commenting and liking.	2.66	1.25	Medium
8	3	I spend a lot of my time keeping up with the latest celebrities’ news.	2.38	1.17	Medium
9	6	I share celebrities’ videos and posts on my social media pages.	2.30	1.24	low
Total Means			2.84	0.81	Medium

**Table 10**  
Regressions Analysis of SMIs on all domains.

Independent	Dependent	“t” value	“t” sig	Beta	R <sup>2</sup>
Social Media Influences (SMIs)	Intellectual	15.126	>0.000	0.52	0.27
	Social	-11.835	>0.000	-0.51	0.26
	Ethical	-5.637	>0.001	-0.18	0.03
	Healthy	-7.625	>0.000	-0.24	0.06

adolescents. This study is the first to be conducted in Arab region to examine the influence of SMIs on adolescents’ behavior including four domains namely; intellectual, social, ethical and healthy aspects. Furthermore, this study advanced the literature by developing measurement criteria based on the nature and background of the Middle East Countries. The findings of the study described the influence of SMIs on intellectual, social, ethical and healthy aspects of Arab adolescents. This influence was medium in most cases where there are some control and restrictions of using social media by families and schools. Furthermore, findings revealed that SMIs have significant impact on adolescents’ behavior where social, ethical and healthy aspects of adolescents were negatively impacted while intellectual aspect was the sole positive impact.

One first finding pertains to the usage of social media among Arab adolescents where study reveals that 66% of adolescents use Facebook, 56% use What’s app, 50% use Instagram, 33 use TikTok, 23% use YouTube, 11% use Telegram, 9% use Twitter and 3% use



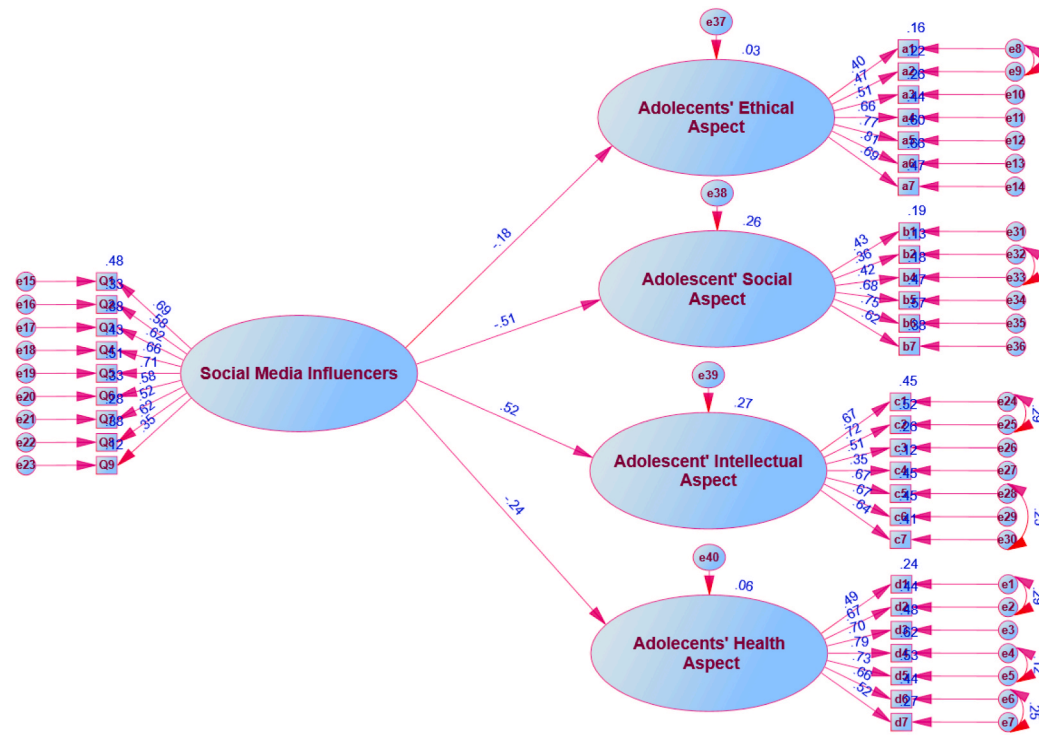


Fig. 3. The structural model with path coefficients.

Snapchat. According to age category, adolescents from 12 to 15 years old usually use Facebook and what’s app for communication with family and friends while categories 15–18 and more than 18 years old use other social media applications such as Tikok and Instagram in addition Facebook and what’s app. Furthermore, results show that young people in category three (more than 18) use twitter while YouTube was used by three categories based on the age. Moreover, results show that there are no differences among adolescents based on gender of social media usage.

Additionally, according to action and interaction theory by Gallagher [77], interaction is about understanding each other by focusing on bodily behavior. Adolescents also follow the same approach when they watch SMIs behavior or content. This study revealed that social media influencers in Middle East countries significantly influence adolescents’ behavior including intellectual, social, ethical and healthy aspects. Although previous studies in Middle East countries were limited to individual countries, but these studies discussed the social influence and usage of social media in total by governments and businesses [24,74]. Results also showed that adolescents’ intellectual aspect was positive which was expected due to huge usage of social media among adolescents and high scale of information could be gained and distributed. Besides, the findings of this study pointed out the negative impact of SMIs on social, ethical and healthy aspects of adolescents. Socially, adolescents prefer to spend more time on their phones than engaging in family activities [48,50]. Ethically, adolescents without parents’ control use social media to spread rumors and neglect religious rituals [58]. On the health side, spending longtime on social media cause many problems including dedication, psychological pressure, depression and headache. Previous studies supported these results emphasizing the negative role of social media users in total upon adolescents, adults and young people [67,68].

In conclusion, SMIs are a double-edged sword on adolescents, either positive or negative, and this is due to the person’s thought and use. Through our study, it was found that SMIs have negative impact on adolescents’ social, ethical and healthy aspects ‘ while they have positive impact on intellectual aspect. As a result, we constantly suggest conducting numerous in-depth investigations on these platforms and their effects on adolescent intellectual, social, ethical, healthy aspects. In addition to recognize the value of family planning for a number of hours of usage of these applications and a clear emphasis on them to meet the different natural motives of use that are not free from any adolescent.

5.1. Limitations and future directions

The study has some limitations related to data collection, analysis and tool of analysis itself. First, we acknowledge that it was difficult to reach required sample due to the lack of acquaintances and researchers in some Middle East Countries. Second, the absence of the internet in some Arab families, and the interruption of the internet due to wars in other Middle East Countries or the restrictions of families upon adolescents’ usage of internet and mobile phones. Regarding the questionnaires, some of items were adopted from previous studies while other items were developed by researchers and expertise and used for first time. Some of these items were built

regarding Arabic culture and religious beliefs. The researchers used different steps to ensure the validity and reliability of research tool. Furthermore, the analysis was limited to descriptive and linear regression where researchers did not take further steps to compare means based on demographics of sample.

For future directions, first, the influence of social media influencers on adolescents should be studied including all Middle East Countries. Second, we call on the authorities responsible for social networking media to monitor influencers and hold them accountable if they spread negative thoughts that affect the behavior of adolescents. Third, conducting a comparative study on the impact of social media on the behavior of children, adolescents and youth in the Arab world. Fourth, SMIs content varies rating from positive to negative and many in between, the recent phenomena of content creators, gamers and entertainment should be investigated more and draw more evidence in how should be controlled based on the background and culture of every country. Finally, this study investigated the SMIs on adolescents' behavior based on the adolescents' perceptions and point of view, further studies may include the perceptions and perspectives of other parties including families, schools, society and social media influencer themselves.

## 6. Conclusion

This study described social media influencers' (SMIs) impact on adolescents' behavior in Middle East countries. The study revealed that SMIs significantly influence adolescents' intellectual, social, ethical and healthy aspects. This influence was positive intellectually but related to social, ethical and healthy aspects of adolescents were negatively influenced by SMIs. Moreover, this study indicated the usage of social media platforms among adolescents in Middle East Countries were Facebook, what's app and Instagram were the most used applications. The right usage of social media platforms, following the right content creators and SMIs have many intellectual benefits for adolescents but as result, there are some implications could be emerged as addiction, inactive socialization and medical problems. Furthermore, we have structured an analysis tool could be used as model to measure the influence of SMIs in same countries based on traditions and patterns of Arab world which is considered as part of contribution of this research. Finally, this research fills the gap in literature where many prior researchers have investigated mental health more than the intellectual, social and ethical aspects.

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## Author contribution statement

Abdullah M. Al-Ansi; Manar Hazaimah; Aseel Hendi; Jebri AL-hrinat; Ghadeer Adwan: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

## Data availability statement

Data included in article/supp. Material/referenced in article.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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