

# The Effect of Social Media on High-School Student's Behavioral Change: A Case Study of Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022

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Submitted: 2023, May 01; Accepted: 2023, May 20; Published: 2023, May 31

**Citation:** Ahmed, M. F., Bedewi, Z. (2023). The Effect of Social Media on High-School Student's Behavioral Change: A Case Study of Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022. *Adv Bioeng Biomed Sci Res*, 6(5), 71-80.

## Abstract

**Background:** social media has positive, beneficial consequences for its users. But it also has unfavorable impacts, particularly on the youth population of high school pupils. The aim of the study is to assess the effects of social media on high-school students' behavioral change at Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022.

**Methodology:** A Survey (Cross-sectional) study design was conducted. Primary data was collected from a sample size of 104 high school students using a self-administered questionnaire. Participants were recruited using simple random sampling method. The data was cleaned, entered and analyzed using SPSS version 26.0 statistical software and MS excel. Descriptive statistics and logistic regression analyses including bivariate and multivariate logistic regression analysis were used for analysis. Level of significance was determined at 95% confidence and  $p$ -value  $< 0.05$ .

**Result:** All the participants were social media users with Male=46.2% and Female=53.8% of gender distribution. The most commonly used platform was Telegram (67.3%), Instagram (62.5%), Ticktock (56.7%) and YouTube (47.1%). Most students perceived that social media is essential for high-school students but 82.7% of them were using social media for reasons stated other than academic related. Use of social media ( $p=0.001$ ,  $Exp(B)=0.507$ ); time spent on social media ( $p=0.007$ ,  $Exp(B)=0.094$ ); the reason for social media usage ( $p=0.014$ ,  $Exp(B)=0.205$ ); and students perception for social media usages ( $p=0.021$ ,  $Exp(0.531)$ ) were the significant factors identified.

**Conclusion and Recommendations:** The major determinants for social media related high-school students behavioral change were use of social media, time spent on social media, the reason for social media usage and students perception for social media usages. Students are recommended to use social media only for rightly intended and academic related purposes.

**Keywords:** High-school, Students, Social Media, Computer Technology, Information, Ethiopia.

## List of Abbreviations

AU: Admas University

AUSPS: Admas University School of Postgraduate Studies

EDHS: Ethiopian Demographic and Health Survey

GND: Gender; HSSBC: High-school Student's Behavior Change

ICT: Information and Communication Technology

IM: Instant Messaging

MBA: Masters of Business Administration

PSMU: Perception on Social Media Usage

RUSM: Reason for Use of Social Media

TSSM: Time Spent on Social Media

USM: Use of Social Media

VOIP: Voice Over Internet Protocol

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## 1. Background

Social media is a computer-based technology that makes it easier to share information, ideas, and thoughts by creating online communities and networks [1]. Social media is an online platform that enables users to distribute content fast. The content may consist of photographs, videos, documents, and personal information. On a computer, tablet, or smartphone, users connect with social media mostly through web-based software or web applications, and they frequently do so for communication [1].

Social networking platforms are web-based tools that let users publish their contact list and build public or semi-public profiles to communicate with others [2]. Following the development of numerous Social Networking technologies, both the need for social media research and the number of users have skyrocketed. The increased use of social networking sites has recently taken off on a global scale. What started out as a hobby for a select few computer competent people has developed into a global social norm and way of life [3]. Particularly teenagers and young people have embraced these websites as a way to communicate with one another, share knowledge, reinvent their selves, and promote their social lives [4].

"Social networking" has increasingly become an online activity as a result of improvements in communication technology and the widespread usage of the Internet, with sites like Myspace serving as examples [5]. The most popular social networking site on the internet right now is Facebook. The ground-breaking website to link Harvard University students was founded on February 4, 2004, by 19-year-old Mark Zuckerberg, a sophomore at Harvard [6]. However, as time goes on, this website enables users to create social networks with hundreds or even thousands of people from around the globe. University students are one of the site's most active demographics, and features like photos, wall posts, and status updates seem to be irresistible to those who want to connect with their friends [7].

According to estimates, there will be 7.91 billion people living in the world by the beginning of 2022, with metropolitan areas housing more than half of them (57 percent). 4.95 billion people used the internet in the beginning of 2022, making it 62.5 percent of the world's population. There are 4.62 billion social media users globally as of January 2022. Even though it's important to note that social media "users" may not accurately reflect separate people, this number represents 58.4% of the world's population [8].

When given access to social media, many children waste their time chatting and searching the internet for unrelated information. Some of them would even use headphones while studying and hum the music they're listening to, which would reduce their assimilation rates and annoy those around them [9]. They are frequently seen reading social and fashion blogs on the internet to stay up to date with events and to keep up with what is happening in the globe. There is little doubt that students no longer want to read for enjoyment, and instead, many now choose to stream movies on social media and play games on their smartphones. It is merely stating the obvious to assert that

student reading excitement and competition are fast waning [10].

Internet usage among urban men and women aged 15 to 49 (in the 12 months before the survey) was reported to be 44.9 percent and 17.5 percent, respectively, by the 2016 Ethiopian Demographic Health Survey (EDHS) [11]. Accordingly, 35.6% of women and 41.6% of men reported using the internet every day, respectively. The percentage of females and boys aged 15 to 19 who used the internet every day was 22.8 percent and 32.9 percent, respectively [11]. According to the Global Digital Reports (2022), Ethiopia had 58.54 million cellular mobile connections (49.1% of the total population) and 29.83 million (25%) internet users as of January 2022. Social media usage in Ethiopia peaked at 6.35 million users (5.3 percent of the total population) during the same time period [8]. This shows that a sizeable portion of Ethiopians utilize the internet, which is something that warrants more research.

Similar to this, Ethiopian higher education institutions are worried about students who use social media excessively instead of reading their course materials [12]. Universities in Ethiopia have conducted a wide variety of Internet and information technology research projects. Even while usage of social media sites like Facebook, YouTube, and Twitter is rising, particularly in urban Ethiopia, it is still one of the least studied topics.

Few studies on social media's effects on students' academic performance in Ethiopia, its effects on students' addiction to it, the types of social media that students use and its perceived advantages and disadvantages have been conducted [13-16]. However, researches on impact of social media on student's behavior is not widely conducted in the country. The aim of this study was to assess the effects of social media on high-school students' behavioral change at Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022.

## 2. Objectives of the Study

### 2.1. General Objectives

- To assess the effects of social media on high-school students' behavioral change at Bikolos Nur Academy of Addis Ababa, Ethiopia.

### 2.2. Specific Objectives

- To assess the effect of use of social media on high-school student's behavior change.
- To examine the effects of gender on high-school student's behavior change related to social media.
- To examine the effect of time spent on social media on high-school student's behavior change.
- To evaluate the effect of reason for usage of social media on high-school student's behavior change.
- To evaluate the effect of the perception on social media on high-school student's behavior change.

## 3. Methodology

### 3.1. Study Settings

Bikolos Nur Academy is a privately owned school which strives for excellence. Bikolos Nur Academy is the capital city, Addis

Ababa, Ethiopia. It was founded in 2007. It is in Kolfe Keranyo subcity of Addis Ababa, Ethiopia.

### 3.2. Research Design and Period

A Survey (Cross-sectional) study design of both descriptive and explanatory was conducted. The rationale for preference to this design can be explained by the fact that the study was applied on student's interests or desires. Additionally, this design could allow the researcher to gather data directly from the students in their natural environment for the purpose of studying their attitudes, views and comments about their day-to-day interactions with social media. It was conducted on high school students of Bikolos Nur Academy, Addis Ababa, Ethiopia, from June 1 to June 13 of 2022.

### 3.3. Type and Sources of Data

Primary sources of data were utilized in this study. In other words, the study was mainly dependent on the primary information that was obtained from the field. The primary data was tailored to the questions to produce the data to help in the study.

### 3.4. Study Population

#### 3.4.1. Source Population

The source population is high-school students of Addis Ababa during the study period.

#### 3.4.2. Study unit

The researcher wished to carry out the research from all students in the Addis Ababa, however; for reasons of time and cost constraints, the study population was limited to Bikolos Nur Academy's high-school. The study unit of this study was high-school students learning at high school campus of Bikolos Nur Academy of Addis Ababa, Ethiopia, during the study period.

### 3.5. Sample Size

Sample size was determined using the Taro Yamane's single population formula as we had a definite source study population. Upon calculation, we considered the following assumptions: Source population size (N)=123, margin of error (e)=0.05 at 95% confidence interval level(CI), and a 10% contingency rate for non-respondents.

Therefore,  $n=N/(1+Ne^2)$

where n= sample size

N= Source population

e= margin of error

Based on the above formula, the calculated sample size was found to be 94. By adding the 10% contingency rate, the total sample size became 104.

### 3.6. Sampling Technique

A simple random sampling method was applied to recruit our study population from the source of all high-school students (123) of the selected Bikolos Nur Academy of Addis Ababa.

### 3.7. Data Collection Techniques

Abstract sheets were used. A Structured questionnaire was taken

from previous literature with few amendments to fit this study context. The questionnaire was prepared by English language and it consists of four different parts (Introduction, Characteristics on Socio-demography, Information on social media usage and concluding the interview). Data was collected by trained personnel. Every morning the data collectors was conducting face to face interview with the participants. Supervisions were made by the principal investigator. All the problems faced during data collection and handling were solved by discussion among the team members.

### 3.8. Operational Definitions

As words may have different meaning in different context, the following definitions were intended to be understood for the purpose of this study.

- High School Students: students whose current school grade levels are in grade 9, 10 11 and 12.
- Website: Is a collection of web-pages with a unique identification domain name (web address) through which people can access digitally and organized multi-media contents using the internet.
- Social Media: Is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content [17].
- Social Media Addiction: Could be defined as excessive use and dependency on Social Media websites and mobile applications; or as situation where a user spends too much time on social media platforms such that it negatively affects other aspects of his or her daily life [18].
- Pros and Cons: Its advantages and disadvantages
- Social Media Platform: A system for disseminating information over the internet to a selected group of followers. Such as
- WhatsApp: Is an IM and voice over internet protocol (VOIP) service application which let users share text, audio, video, images and other documents across smart phone devices.
- Viber: A mobile and desktop application that connects users around the world with each other. It gives people the ability to connect through one-on-one messaging or group chats, voice and video calls as well as following brands and celebrities on Public Chat.
- Telegram: A recent mobile and desktop instant messaging app with more speed and security options for users.
- Imo: An instant messaging tool that lets user talk with text, one to one and group video calls.
- Face book: The Largest Social Networking platform in the world with more than 2 billion active monthly users. Social networking services of Face book are available across devices like Personal Computers, tablets and smart phones.
- Twitter: A social networking service where users post and interact with short messages, called "tweets." A single tweet is no longer than 140 characters.
- LinkedIn: A professional Networking platform where people interact with a network of their own profession and subject area group.
- YouTube: A video sharing platform by Google. People can watch and stream videos, create channels and build their

own audience.

- Instagram: A mobile and desktop photo-sharing application and service that allows users to share pictures and videos.
- Others: Ticktok, Plus, hi5, palchat,.... Etc

### 3.9. Data Analysis Techniques

The data was checked, cleaned and entered into Microsoft Excel and SPSS version 26.0 for analysis. Data was analyzed and interpreted using both qualitative and quantitative analysis. The results of the descriptive statistics were expressed in mean, standard deviation, percentage and frequency, and were displayed using tables, charts and graphs. The associations between

dependent variables and independent variables were analyzed using logistic regression. The magnitude of associations between independent and dependent variables were measured using odds ratios and 95% confidence interval (CI) with significant level of P-value <0.05.

### 3.10. Description of Variables and their Scale of Measurement

Based on the findings from the theoretical and empirical literature, the observable determinant factors that might have effects on the probability of social media related behavioral change were summarized with their respective unit of measurement in table 1 below.

Variables	Symbol	Unit of Measurement
<b>Dependent variable</b>		
High-School Students Behavioral Change	HSSBC	Dummy
<b>Explanatory(Independent) Variables</b>		
Gender	GND	Dummy/Nominal
Use of Social Media	USM	Dummy/Nominal
Time Spent on Social Media	TSSM	Ordinal
Reason for Use of Social Media	RUSM	Nominal
Perceptions on Social Media Usage	PSMU	Ordinal

**Table 1: Variables and their Descriptions**

### 3.11. Ethical Considerations

The written paper from Admas University Ethics Review Committee for informed consent was collected and given to the head of Bikolos Nur Academy. After permission was granted from them, after verbal informed consent was obtained from each personnel and then we were involved in the data collection process. Privacy was maintained throughout interviewing, recording and analyzing.

### 3.10. Dissemination of Findings

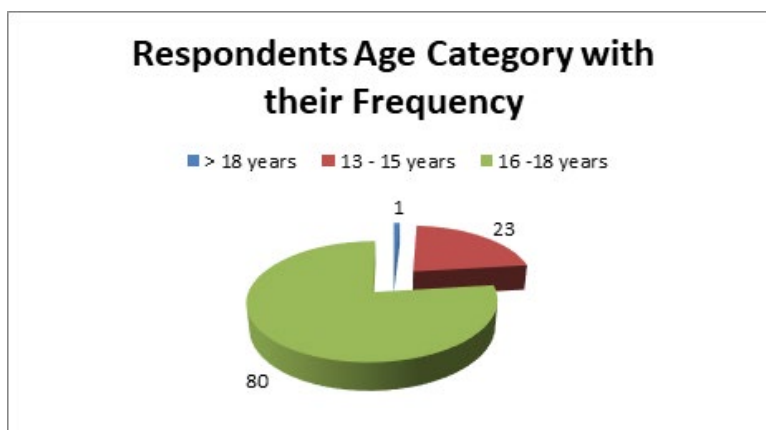
Final report of this study is submitted to Admas university, department of Business and Economics for the fulfillment of Master’s degree in Business Administration. Besides, the result of the finding will be shared to all relevant stakeholders including Ethiopian Federal Ministry of Education, meetings,

peer reviewed journals and conferences.

## 4. Results

### 4.1. Demographic Profile of the Respondents

Among the study participants, 53.8% of them were female students while the rest 46.2% were male students. The minimum and maximum age reported was 13 and 19 years old, respectively. The majority (76.9%) of the respondents fell in the age category of 16-18 years. None of the participants was less than 13 years old and only one student was aged above 18 years (Figure 1). Most of the respondents 40 (38.5%) were grade 10 students while the rest 27 (25.9%) and 37 (35.6%) of them were students from grade nine and eleven, respectively. We did not have grade 12 high-school students in the study as they were allowed to study for the Ethiopian National Leaving School Examination



**Figure 1:** Study Participants’ Age Category with their frequencies of high-school students of Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022.

## 4.2. Information on Use of Social Media

### 4.2.1. Information on Social Media Usage

All of the participants are currently users of social media while significant numbers (91.3%) of them are using at least three types of social media platforms. Most (82.7%) of them were using social media as a source of non-academic related

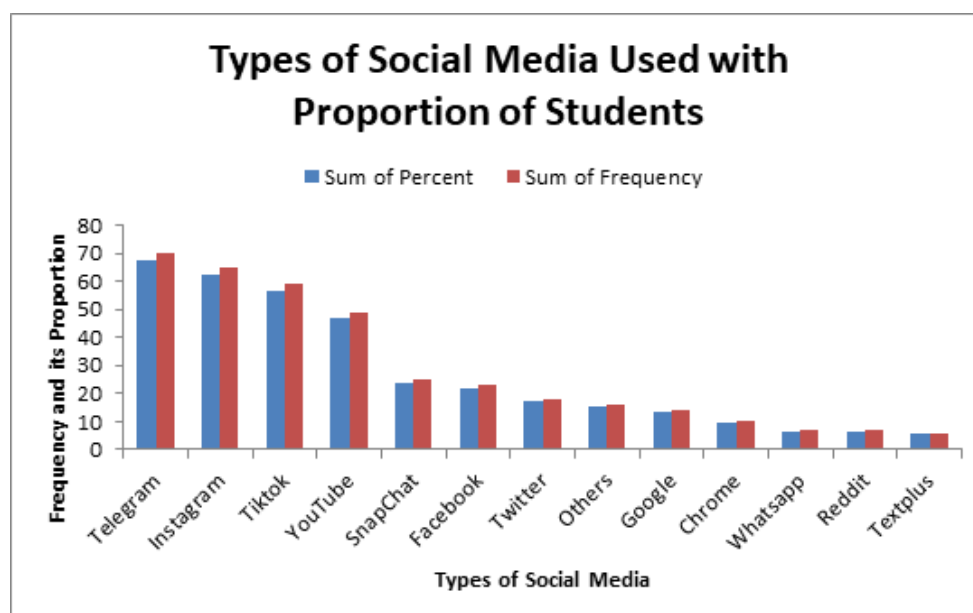
information but only 17.3% were using it for academic purpose (I.e, to collaborate with fellow students and study). Nearly, two-third of the students has been using social media for at least two years and also, nearly half of them are spending three or more hours of their day on social media (Table 2).

Questions with Participants' Responses	Frequency	%
<b>How long have you been using social media?</b>		
For less than 6 months	9	8.7
For 6 months to 1 year	28	26.9
For 2 to 5 years	45	43.3
For more than 5 years	22	21.2
<b>Why do you use social media?</b>		
To socialize and make new friends	24	23.1
To remain updated about what is trending	31	29.8
To collaborate with students and study	18	17.3
As a source of recreation and relaxation	31	29.8
<b>How many hours of your day do you spend on social media?</b>		
For less than an hour	16	15.4
For one to two hours	37	35.6
For three to five hours	37	35.6
For six to eight hours	6	5.8
For more than eight hours	8	7.7

**Table 2: Social Media Usage Information of high-school students of Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022**

When participants were asked the number of social media platforms they were using, 91.3% of them have been using at least three types of platforms and only 8.7% of them were using either one or two platforms. Fifty-four (51.9%) of the students had 3 to 5 platforms while 28.8% and 10.6% of them were using 6 to 10 and more than 10 social media platforms, respectively. Twenty-one types of social media platforms were reported by

the students and, of which; the top four most commonly used social media platforms were Telegram- 67.3%, Instagram- 62.5%, Tiktok- 56.7% and YouTube- 47.1%. The platforms used by the students are shown on Figure 2 and nine platforms with least frequency of usage by students (usage frequency ranging between one to three students) were summarized under other classification.



**Figure 2: Types of Social Media Platforms used by high-school students of Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022.**

#### 4.2.2. Participants' Perception on the Effect of Social Media Usage

Majority (68.3%) of the students perceived that social media is essential for high-school students while significant number (31.7%) of them were not sure on its usefulness for high-school students. Similarly, more than three-fourth of them preferred social media over other means of communication. Most (41.3%)

of the students considered that social media makes learning technology easier while 35.6% of them opted for sharing information and work quickly as its best advantages. On the contrary, more than half of them reported social media has reduced focus on studies and affects academic performance as its worst disadvantage (Table 3).

Questions with Participants' Responses	Frequency	%
<b>Do you think using social media is essential for high school students?</b>		
Strongly agree	33	31.7
Agree	38	36.5
Neutral	33	31.7
Disagree	---	---
Strongly disagree	---	---
<b>Do you prefer social media over other means of communication in getting information?</b>		
Yes	81	77.9
No	23	22.1
<b>What is/are the best advantage(s) of using social media?</b>		
Sharing information/work quickly	37	35.6
Meeting new people can help you socialize	13	12.5
Learning technology becomes easier	43	41.3
Keeping in touch with friends is convenient	8	7.7
None	3	2.9
<b>What is/are the worst disadvantage(s) of using social media?</b>		
Reduced focus on studies and affects academic performance	58	55.8
It makes undisciplined person and affects behavioral change	18	17.3
Lesser physical activity results in health problems	12	11.5
Destroys/destroys social skills (not an adequate replacement for face-to-face communication)	12	11.5
None	4	3.8

**Table 3: The perception on social media usage of high-school students of Bikolos Nur Academy, Addis Ababa, Ethiopia, 2022**

#### 4.2.3. The Effects of Social Media on Student's Behavior

Upon assessing their perception on the effect of social media, two-third of the students perceived that social media has effects on the behavioral changes of high school students. Similarly, 58.7% of them reported that they developed feeling of uncomfortable in having face-to-face conversation as consequence of social media usage. Moreover, 34.6% and 43.3% of them agreed (either agree or strongly agree) that social media poses negative effects on

their behavior change and studies by some means, respectively. But, a quarter of them disagreed (either disagree or strongly disagree) on the idea of social media posing negative effects on their behavior change. Most of the students perceived as girls are the most users of social media while only seven participants claimed as there is no gender difference on the uses of these media (Table 4).

Questions with Participants' Responses	Frequency	%
<b>Do you think that social media has an impact on the behavioral changes of high school students?</b>		
Yes	69	66.7
No	35	33.7
Neutral	33	31.7
<b>How do social media affect your behavior?</b>		
Has no effect	43	41.3
Sometimes I feel uncomfortable in having face-to-face conversation	52	50
I always feel uncomfortable in having face-to-face conversation	9	8.7

Do you think usage of social media has any negative effects on your behavior change?		
Strongly agree	13	12.5
Agree	23	22.1
Neutral	42	40.4
Disagree	14	13.5
Strongly disagree	12	11.5
Do you think using social media are posing negative effects on your studies by any means?		
Strongly agree	11	10.6
Agree	34	32.7
Neutral	37	35.6
Disagree	22	21.2
Strongly disagree	---	---
Who uses social media the most, as your perception?		
Boys	28	26.9
Girls	69	66.3
Both equally	7	6.7

**Table 4: The Effect of social media on high-school student's behavior of Bikolos Nur Academy of Addis Ababa, Ethiopia, 2022**

#### 4.3. Analyses of the Determinant Factors on Behavior Change

Upon analysis of the binary logistic regression, those variables with significance level of less than 0.05 were considered and taken as significant factors with dependent variable of social media related change in high-school student's behavior.

##### Objective 1: To determine the effect of use of social media on high-school student's behavior change.

From Table 5 below, Use of social media had findings of significance P-value = 0.001 and Exp (B) = 0.507. As the P-value is less than 0.05, the researcher can state that use of social media negatively affects change in behavior of high-school students. This could be explained by the fact that all the respondents were users of social media in this study.

##### Objective 2: To examine the effects of gender on high-school student's behavior change.

Upon analysis, being male gender had a P-value of 0.949 which is more than 0.05 Exp (B) = 0.974 (Table 5). Therefore, the researcher can conclude that in this study there is no association between gender difference and effect of social media on high-school student's behavior change.

##### Objective 3: To examine the effect of time spent on social media on high-school student's behavior change.

From the below logistic analysis reports of Table 5, those

students who spent 3 -5 hours had P-value = 0.007 and Exp (B) = 0.094. This P-value is less than the accepted significance level of 0.05. Hence, the researcher can conclude that there is negative association between time spent on social media and social media related behavior change in high-school students.

##### Objective 4: To evaluate the effect of reason for usage of social media on high-school student's behavior change.

As shown on Table 5, the P-value and Exp (B) for reason of usage of social media stated "to remain updated about what is trending" were 0.014 and 0.205, respectively. As its P-value is less than the accepted significance level of 0.05, the researched claimed that there is association between the reasons for usage of social media and high-school student's behavior change. Therefore, the reason of usage of social media stated "to remain updated about what is trending" negatively associated with social media related behavior change in high-school students.

##### Objective 5: To evaluate the effect of the perception on social media on high-school student's behavior change.

Similarly, students' response of agree for the question "Is social media essential for high-school students?" had P = 0.021 (which is less than P-value of 0.05) and Exp (B) = 0.531 (Table 5). Therefore, the researcher identified that the perception of students as social media is essential for high-school students was significantly associated with social media related behavior change in high-school students.

Variable		P-value	Exp(B)	95% CI
Use of social media	Yes	0.001	0.507	
	No	1.000		
Gender	Male	0.949	0.974	(0.430,2.202)
	Female	1.000		
Time spent on social media	Less than one hour	0.152	0.273	(0.046,1.616)
	1 – 2 hours	0.568	0.633	(0.132,3.044)
	3 – 5 hours	0.007	0.094	(0.017,0.520)
	6 – 8 hours	0.107	0.120	(0.009,1.584)
	More than 8 hours	1.000		
Reason for social media usage	Socialize and make new friends	0.984	0.989	(0.336,2.914)
	Remain updated about what is trending	0.014	0.205	(0.058,0.730)
	Collaborate with fellow students & study	0.864	1.108	(0.343,3.576)
	As a source of recreation and relaxation	1.000		
Perception of social media usage	Agree	0.021	0.531	(0.310,0.910)
	Neutral	1.000		

**Table 5: Binary Logistic Regression Results**

## 5. Discussions

All of the participants are currently users of social media while significant numbers (91.3%) of them are using at least three types of social media platforms. These findings can be explained partly by the fast growing of social media platforms and internet access in the nation as well as in the world. Similar to this finding, Bayleyegn, et al; reported that majority (87.5%) of their participants were using different types of social media platforms [15]. More interestingly, another study from Zambia [19] also in line with the current finding as majority (92%) of the Lusaka study's participants were also using social media. The slight difference of total students having social media account and using it explained by the fact that digital world is growing in alarming rate worldwide [8].

Nearly, two-third and half of the students has been using social media for at least two years and they are spending three or more hours of their day on social media, respectively. Most (82.7%) of them were using social media as means information sources for non-academic related purpose but only 17.3% were using it for academic purpose (I.e, to collaborate with fellow students and study). These could have a disastrous effect on student's behavioral change as well as academic performance. This thought of the researcher can be supported by the idea that social media has an impact on student conduct, as it has been highlighted that the younger generation is growing up with simpler ways to stay connected with loved ones and form new relationships, as well as the ability to readily acquire knowledge and live in a digital world [20].

Telegram (67.3%) is the most commonly used social media platforms in the current study followed by Instagram- 62.5%, Tiktok- 56.7% and YouTube- 47.1%. Similar to this finding, The study done in Addis Ababa also put Telegram (97%) as the first platforms widely used by his participants while Bayleyegn, et al; reported as telegram is the second most used platforms in their study, though their first placed was Facebook [13,15].

This similarity of the findings might be explained by telegram being as one of more personal (mobile number identified) and more user-friendly platforms currently. Most previous studies put Facebook at first place unlike to our study finding [8,15,19]. The different findings of these studies could be explained by the difference in geographical location and study period of the studies.

Two-third of the students perceived that social media has an impact on the behavioral changes of high-school students. Similarly, 58.7% of them reported that they developed feeling of uncomfortable in having face-to-face conversation as consequence of social media usage. Moreover, 34.6% and 43.3% of them agreed (either agree or strongly agree) that social media poses negative effects on their behaviors and studies by some means, respectively. It is true that the more you are exposed and using social media, the more you will be facing the disadvantages of social media. As far as students are spending more time on social media, they could be seeing different unethical videos, pictures and also at increased chance of meeting adult people, too. In addition, the time they spent on reading might also be decreased as result. According to Tapscott, students' digital literacy has given them power in their relationships with adults as well as independence in the world, and technological current advances have led to the democratization of the family, particularly in countries that are leaders in Information Communication Technologies (ICT) [20]. They would also be at risk of being exposed to disadvantages of social media including like Cyber bullying and Harassment, Frauds and Scums, Waste of time on social media, Spend less time with family and friends, Depression, Effects on sleep routine [20].

Most of the respondents preferred social media over other means of communication. This could be explained by the fact that they are most likely to be on social media using their mobile phone. Additionally, social media can give them information in real time, immediately and independently without the need for



adult supervision when they are using for instance on mobile phone. Therefore, social media are convenient since individuals are always connected thanks to mobile phones. These will make easy accessibility of information they are looking for. This finding is in line with the finding of the Lusak town's study of Zambia where 83% of their total participants preferred social media as a source of information [19]. Similarly, the participants from a study in the Nairobi town of Kenya also preferred social media as source of information [21].

The researchers of the current study found that use of social media (P-value =0.001 and Exp(B) =0.507) negatively affects change in behavior of high-school students. This could be explained by the fact that social media can maintain or create contacts with friends (old and new), and social media has made things easier for them at school since they could also get school related information (assignments, exam schedule, etc) through social media. Students could be wasting time and become lazy as they might be spending most of their time on chatting, posting, sharing, and might also be exposed to pornography, cyberbully activities and others. Plus, also, their previous main activities will be decrease: like reading, time spent with families, and others. Therefore, use of social media could significantly affect student's change in behavior. This finding is also supported by the findings of the studies in Kenya and Zambia [19,21].

The researchers also identified as there is association between the reasons for usage of social media (p-value=0.014, Exp(B)=0.205) and high-school student's behavior change. This finding can further be supported by the finding this similar study of students preferred social media as main source of information. It could also be partly explained by the reports of Tapscott [20]. According to his reports, students' digital literacy has given them power in their relationships with adults as well as independence in the world, like democratization of the family [20]. Therefore, the reason of usage of social media stated "to remain updated about what is trending" negatively associated with social media related behavior change in high-school students.

Respondents' perception of social media (p-value=0.021, Exp(B)=0.531) being essential for high-school students affects change in students' behavior. As far as this perception is maintained by the students, they could think that all school related information (assignments, exam schedule, etc) will be available through social media. As students are totally depending on social media, there will be risks of reduced reading, reduced focus on studies and academic activities. Therefore, the researcher identified that the perception of students as social media is essential for high-school students was significantly associated with social media related behavior change in high-school students.

## 6. Conclusion and Recommendations

### 6.1. Conclusions

All the students are current users of social media. Most of the students are wasting their time on social media. Mostly, they are using social media for non-academic purposes. Most students are in difficulty to have face to face conversation which decreases

their confidences. Telegram is the most commonly used social media platforms by students followed by Instagram, Tiktok and YouTube.

Social media poses negative effects on their behavior change and studies by some means. Girls are the most users of social media. Most students perceived that social media is essential for high-school students and also preferred social media over other means of communication. Students considered that social media makes learning technology easier and thought sharing information and work quickly as its best advantages. On the contrary, more than half of them reported social media has reduced focus on studies and affects academic performance as its worst.

### Disadvantage

The major independent variables identified as factors related to social media related behavioral change in high-school students are the use of social media by high-school students, high-school students' time spent on social media, the reasons of social media usage by high-school students, and perceiving the essentially of social media usage in high-school students.

## 6.2. Recommendations

The researcher recommended that:

- ❖ High-school students should decrease the use of social media for reasons other than academic purposes and updating oneself about what is trending.
- ❖ High-school students should limit the time they are spending on social media
- ❖ High-school students should use social media for right intended and academic related purposes only
- ❖ Parental guide should be practiced
- ❖ Schools' officials should limit mobile phone and computers accessibility at school only for academic purposes
- ❖ A future more deep and broader researches inclusive of both students and teachers as well as inclusive of both private and government school is recommended.

## Declarations

### Ethics approval and consent to participate

All methods were conducted in accordance with the relevant research guidelines and protocols. All protocols were approved by Admas University Ethics Review Committee. Informed consent was obtained from the head of Bikolos Nur Academy, Students and guardians of the students. Privacy was maintained throughout interviewing, recording and analyzing.

### Consent for publication

Consent for publication was obtained from the head of Bikolos Nur Academy, students and their guardians.

### Availability of data and Materials

The datasets used and analyzed for this study are available from the corresponding author on reasonable request.

### Competing interests

The authors declare that they have no competing interests.

## Funding

Not applicable

## Author's contributions

Protocol preparation and literature review: MFA, ZB. Data analysis and interpretation: MFA. Drafting of the manuscript and revision of manuscript: MFA, ZB, . All authors read and approved the final manuscript.

## Acknowledgment

We would like to acknowledge Admas University for allowing us to undergo this study and members of Bikolos Nur Academy for letting us collect the data and other necessary documents. We want to extend our sincere gratitude to the research team members and team members who facilitate the data collection, reporting and summary production and submission.

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