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Research paper

What happens when you are not on social networks? A survey among middle-school teens in Switzerland

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ABSTRACT

Aim: The aim of the study was to describe the differences between users and non-users of social networks controlling for explanatory factors.
Methods: Data were drawn from a survey on media and Internet use carried out among 2893 10th graders in Switzerland. Participants were asked whether they were active in 10 different social networks and divided into two groups: *Not active* (answering *no* to the 10 networks; *n* = 176) and *Active* (answering positively to at least one; *n* = 2717). The groups were compared on sociodemographic, health, and screen-related variables. All variables significant in the bivariate analysis were included in a backward logistic regression.
Results: The backward logistic regression revealed that inactive participants were more likely to be males, younger, to live in an intact family, and to assess their screen time as below average, and less likely to practice extracurricular sport, to spend ≥4 h of screen time per day, to be around their smartphone at all times, to have parental rules about Internet content, or to discuss Internet use with parents.
Conclusion: Most young adolescents use social networks. However, this activity does not seem to be associated with academic problems. Therefore, the use of social networks should not be demonized but considered part of their social life.

1. Introduction

Adolescents are among the most active users of social networks and these have become integrated in their daily life [1] as social interactions increasingly take place through them [2]. Research indicates that youths spend a lot of time communicating through social networks [3], and this trend has increased in recent years. Moreover, almost two out of every five adolescent social network users use four or more platforms [4]. Swiss data collected in 2018 indicated that 94% of adolescents aged 12–19 years were on social networks [5].

Excessive use of social networks has been associated with negative health consequences [1], both physical [6] and mental [7–9], and with conflicts with parents [10,11]. Most of these indicators are usually more marked in females than in males [7–9]. However, some authors [12] suggest that social networks use may be an indicator rather than a risk factor for poor mental health, while others [13] conclude that daily social networks use is not an important risk factor for depressive symptoms. Research also shows that passive use of social networks is associated with greater symptoms of anxiety and depression, while active use decreases them [9]. Besides, problematic media use is also related to lower academic achievement [1,14].

Nevertheless, even though there are still some adolescents not using social networks, this phenomenon has been rarely studied. Australian data published in 2011 [15] indicated that 30% of adolescents were not using social networking platforms at the moment of the survey, and this phenomenon was more marked among males (41%) than females (22%). In Switzerland, non-users represent 5–6% [5,16], similar to a study carried out in the United States (7%) [2].

According to the literature, not being on social networks may be due to two main reasons. On the one hand, some adolescents consider that it is too time consuming and prefer to engage in other activities [15]. On the other, they may be less likely to be socially driven [17]. However, parental control or interdiction may also play a role in this. It is thus important to establish the characteristics of adolescents who are not on social networks and determine to what extent it protects them or not regarding health and social consequences.

The objective of this research was to describe the differences between users and non-users of social networks taking into account potential explanatory factors. We hypothesized that adolescents with no social network accounts would report a better academic performance.

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2. Methods

Data were drawn from a survey on media and Internet use carried out among 10th graders (aged 13–14 years) in the canton of Vaud, Switzerland, from November 2019 to February 2020 [16]. A random sample of 3814 students (response rate, 92.6%) accessed the questionnaire and, among them, 808 were removed because they did not want to participate (n = 108), they did not answer honestly (they answered *no* at the end of the questionnaire when asked whether their responses were honest; n = 127), they did not complete the questionnaire until the end (n = 435), or had completed it more than once (n = 138). Out of the 3006 questionnaires that were considered valid, 113 participants (67 males) reported not owing a smartphone and were not included in the analysis as youths use mainly this device for social networking. The analytic sample included 2893 youths (50.2% males).

Participants were asked whether they were active in 10 different social networking sites (Facebook, Instagram, Snapchat, Pinterest, Twitter, Musical.ly, TikTok, Discord, Houseparty, Reddit). Based on these results, we divided the sample into two groups: *Not active on social networks* (those having answered *no* for all 10 of them) and *Active on social networks* (those having answered positively for at least one social network). In this study, as in a similar research [5], we have not considered the WhatsApp messaging service as a social network because it does not enable public communication. Moreover, as the objective was to compare users with non-users, we did not consider the number of social media used among the latter. The two groups were compared on sociodemographic, health, and screen-related variables.

Sociodemographic variables included age, gender, nationality (Swiss-born/other), residence (urban/rural), family structure (parents together/other), relationship with father and mother (on a scale from 1 = *poor* to 10 = *excellent*), and perceived family socioeconomic status compared to other families in Switzerland with seven possible answers ranging from *very much below average* to *very much above average* and trichotomized into *above average, average,* and *below average* [18].

Health-related variables included overweight/obesity (using self-reported weight and height to calculate the body mass index and then comparing it to international standards [19]), extracurricular sport practice (at least twice a week), sleep troubles (at least weekly), and emotional well-being using the World Health Organization (WHO)-Five Well-Being Index (WHO-5 index) [20]. The WHO-5 index is a five-item questionnaire (e.g., "I have felt calm and relaxed") related to the previous 2 weeks with six possible answers ranging from *at no time* (0) to *all of the time* (5). The sum of the items ranges from 0 to 25, with a value under 13 indicating poor emotional well-being. To assess the perception of their academic performance, we asked students whether compared to the other students in their class they thought that they were above average, average, or below-average students. We dichotomized the answers into *below average/other*.

Screen-related variables comprised the short version (12 items) of the internet addiction test [21], self-reported time spent on screen per day (*4 h or more/less than 4 h*) [22], perceived screen time (*above average, average, below average*), whether they sleep close to their smartphone (*yes/no*), whether their smartphone is on plane mode at night (*yes/no*), whether they look at their smartphone at night (*yes/no*), whether they have their smartphone close by while doing their homework (*yes/no*). We also inquired about parental rules regarding time spent online (six items on a scale from 1 = *completely disagree* to 5 = *completely agree*; range 6–30, with a higher score indicating stricter rules), content of what is seen online (three items on a scale from 1 = *absolutely false* to 5 = *absolutely true*; range 3–15, with a higher score indicating stricter rules), and discussions about screen use with parents (four items on a scale from 1 = *never* to 5 = *very often*; range 4–20, with a higher score indicating more communication between the teenager and the parents) [23]. To assess smartphone use, we used the short version of the Smartphone Addiction Scale [24]. This 10-item scale (e.g., "The people around me tell me that I use my smartphone too much") is rated on a scale from 1 (*completely disagree*) to 6 (*completely agree*) for a total score ranging from 10 to 60. A score above 32/60 is considered as problematic smartphone use.

Finally, we listed 12 activities and asked participants whether they performed any of them for at least 1 h on school days.

The study protocol was approved by the Ethics Committee of the canton of Vaud (protocol no. 2019-01232).

2.1. Statistical analysis

We first ran a bivariate analysis comparing both groups using the chi-square test for categorical variables and Student's t-test for continuous variables. All significant variables ($p < 0.05$) were then included in a backward stepwise logistic regression using *Active on social networks* as the reference category. Using a backward selection, nonsignificant variables were thus consecutively eliminated until no more variables could be excluded from the model. Results are presented as odds ratios (OR) with 95% confidence intervals.

In addition, for the daily activities, we first compared the two groups at the bivariate level. Afterwards, significant daily activities were included separately in a logistic regression controlling for age, gender, and screen time (4 h of more, less than 4 h). Results are presented as OR with 95% confidence intervals.

3. Results

Overall, 6.1% of the sample (n = 176) were not active on social networks. In the bivariate analysis (Table 1), compared to those who were active (n = 2717, 93.9%), youths who were not active on social networks were significantly more likely to be males and slightly younger, to have an intact family, to have a better relationship with their father, to assess their screen time as below average, and to have more parental rules about screen use. Additionally, they were less likely to perceive themselves as below-average students, to be overweight, to practice extracurricular sport, to spend 4 h or more of screen time per day, to sleep by their smartphone, to wake up at night to look at it, to have it close by when doing their homework, to report problematic smartphone use, to have parental rules about Internet content, or to discuss Internet use with their parents. It is worth noting that no association was found for nationality, residence, relationship with mother, perceived family socioeconomic status, emotional well-being, sleep problems, or problematic Internet use.

The backward logistic regression (Table 2) revealed that those who were inactive on social networks were more likely to be males and younger, to live in an intact family, and to assess their screen time as below average. Similarly, they were less likely to practice extracurricular sport, to spend 4 h or more of screen time per day, to sleep by their smartphone or to have it close by when doing their homework, to have parental rules about Internet content, or to discuss Internet use with parents.

Regarding other activities during schooldays, those inactive on social networks were more likely to read a book and less likely to watch series or videos, to listen to music, to use social networks, to send messages or to game online both at the bivariate and at the multivariate levels (Table 3). No differences were found for watching TV, extracurricular sport practice, doing their homework, gaming offline, or spending time with their family.

4. Discussion

Young teenagers not using social networks were a minority showing clear differences with their peers who are active on social

Table 1
Bivariate analysis comparing the not active and active groups.

	Not active	Active	*p*	OR [95% CI]	*p*
Gender (male)	69.6%	48.1%	<0.0001	2.47 [1.77; 3.44]	<0.0001
Age (mean ± SE)	13.48±.05	13.72±.02	<0.0001	0.61 [0.49; 0.76]	<0.0001
Swiss-born (yes)	85.2%	80.8%	0.15	1.37 [0.89; 2.10]	0.153
Residence (urban)	48.8%	53.4%	0.26	0.83 [0.61; 1.14]	0.258
Student (below average)	2.4%	8.2%	<0.001	0.28 [0.12; 0.35]	0.003
Family structure (parents together)	82.2%	67.7%	0.0001	2.20 [1.48; 3.27]	<0.0001
Relationship with mother (mean ± SE)	8.46±.13	8.59±.04	0.35	0.96 [0.89; 1.04]	0.332
Relationship with father (mean ± SE)	8.45±.14	7.86±.05	0.0001	1.13 [1.05; 1.21]	0.001
Perceived familial socioeconomic status			0.46		
Above average	20.1%	16.6%		1.26 [0.84; 1.88]	0.259
Average	75.1%	78.1%		Reference	
Below average	4.8%	5.3%		0.96 [0.51; 1.80]	0.899
Emotional well-being (poor)	23.3%	25.7%	0.52	1.14 [0.79; 1.64]	0.500
Overweight/obesity (yes)	9.4%	14.6%	<0.05	0.62 [0.38; 0.99]	<0.05
Sleep problems (at least weekly)	26.1%	30.7%	0.23	0.80 [0.55; 1.16]	0.232
Extracurricular sport (at least twice a week)	45.9%	54.6%	<0.05	0.71 [0.51; 0.97]	<0.05
Internet addiction test (problematic)	7.6	11.6%	0.17	0.62 [0.32; 1.23]	0.174
Screen time >4 h/day (yes)	15.6%	32.8%	<0.0001	0.38 [0.24; 0.59]	<0.0001
Perceived screen time			<0.0001		
Above average	21.2%	40.3%		0.46 [0.30; 0.72]	0.001
Average	62.3%	54.9%		Reference	
Below average	16.5%	4.8%		3.05 [1.83; 5.08]	<0.0001
Sleep by smartphone (yes)	34.6%	54.3%	<0.0001	0.44 [0.32; 0.62]	<0.0001
Smartphone shut down/on plane mode at night (yes)	48.5%	50.1%	0.69	0.94 [0.69; 1.29]	0.694
Wakes up to look at smartphone during night (yes)	14.6%	30.6%	<0.0001	0.39 [0.25; 0.60]	<0.001
Smartphone close by during homework (yes)	58.0%	75.5%	<0.0001	0.50 [0.33; 0.62]	<0.0001
Problematic smartphone use (yes)	7.8%	18.9%	<0.0001	0.36 [0.19; 0.70]	0.003
Parental rules about screen time (mean ± SE)	17.99 ± 0.35	16.38 ± 0.11	<0.0001	1.06 [1.03; 1.09]	<0.0001
Parental rules about Internet content (mean ± SE)	7.40 ± 0.26	8.50 ± 0.26	<0.0001	0.90 [0.85; 0.95]	<0.0001
Discuss Internet use with parents (mean ± SE)	8.65 ± 0.26	9.20 ± 0.08	<0.05	0.95 [0.91; 0.99]	<0.05

OR: odds ratio; CI: confidence interval; SE: standard error.

networks and, contrary to our hypothesis, they did not report better academic results.

The main difference was that they had a higher probability to be males, with an adjusted OR of 3.51. This finding is in agreement with the literature indicating that girls spend more time on social networks while boys are more likely to play online games [25]. Furthermore, they were also younger and probably still more closely monitored by their parents regarding their screen use, including social networks. Additionally, most social networks have a minimum age requirement of 13 years, which could partially explain this finding. The fact that they were twice more likely to live with both their parents could also be a factor since it has been found that parents living together show higher levels of monitoring [26].

As could be expected, non-active teenagers were less likely to use screens in general and more likely to assess their screen time as below average. This lower screen use could explain their minor setting of parental rules about content or discussions about screen use, as setting rules seems to be more a reactive than a proactive parental behavior [27]. It could be hypothesized that rules and discussions about screen use are more likely to arise when teenagers start using social networks and, thus, spend more time online, than rather as a primary prevention. Moreover, it could also be assumed that for youths with low screen use, content is not a parental concern. Yet, a study [28] found that parental rules are more effective among young people less engaged in social networks.

Contrary to earlier studies [7,12,29], we did not find an association with physical or mental health after controlling for confounding factors. This seems to confirm a Dutch research concluding that the association between use of social networks and emotional well-being differs across adolescents [30] and one from the United States [13] inferring that social network use is not a risk factor for depressive symptoms.

Interestingly, teenagers not using social networks were less likely to practice extracurricular sport. This finding seems to indicate that using social networks is not a restraint for sport practice and could imply that sport practice, as a social activity, benefits from its use.

Table 2
Backward logistic regression using the active group as the reference category: results are presented as adjusted odds ratio with 95% confidence intervals.

	Not active	*p*
Gender (male)	3.51 [2.38; 5.20]	<0.0001
Age	0.64 [0.50; 0.82]	0.0001
Family structure (parents together)	2.05 [1.31; 3.20]	0.002
Extracurricular sport (at least twice a week)	0.46 [0.32; 0.66]	<0.0001
Screen time >4 h/day (yes)	0.52 [0.32; 0.87]	<0.05
Perceived screen time (below average)	2.54 [1.52; 4.26]	<0.0001
Sleep by smartphone (yes)	0.65 [0.45; 0.94]	<0.05
Smartphone close by during homework (yes)	0.63 [0.43; 0.90]	<0.05
Parental rules about Internet content	0.91 [0.85; 0.96]	<0.01
Discuss Internet use with parents	0.93 [0.88; 0.99]	<0.05

Variables eliminated: relationship with father; student (below average); overweight/obesity; wakes up to look at smartphone during night; smartphone addiction; parental rules about screen time.

Table 3
Activities lasting at least 1 h on schooldays: bivariate and multivariate analyses comparing not active and active groups.

	Not active	Active	*p*	aOR[a]
Watching TV	21.3%	26.5%	0.14	
Watching series	24.5%	53.0%	<0.0001	0.39 [026; 0.56]
Watching videos	50.2%	58.2%	<0.05	0.70 [0.51; 0.98]
Listening to music	33.3%	63.3%	<0.0001	0.37 [0.26; 0.53]
Reading a book	28.4%	11.9%	<0.0001	3.13 [2.98; 4.70]
Sport practice	49.5%	55.8%	0.11	
Doing homework	39.3%	42.9%	0.37	
Using social media	5.5%	55.7%	<0.0001	0.06 [0.03; 0.12]
Send messages	10.8%	35.3%	<0.0001	0.29 [0.17; 0.48]
Gaming (offline)	23.2%	17.9%	0.11	
Gaming (online)	26.2%	35.4%	<0.05	0.43 [0.29; 0.63]
Spending time with family	67.1%	70.0%	0.43	

[a] Odds ratios adjusted (aOR) for age, gender, and screen time (over 4 h/day), using the active group as the reference category.

This result is partially in line with a study carried out in the United States [2] where it was found that social network use was associated with higher physical activity levels among physically active students, but not among sedentary students.

When looking at the activities done on schooldays, again as expected, all those related to screen use (except for gaming offline) were less frequent among non-active teens. Still, the only daily activity non-active teens did more often was reading a book. This finding seems to contradict a previous study [15] indicating that one of the reasons mentioned by teenagers for not using social networks was their preference for engaging in other activities.

The main strength of this research is that it is based on a large representative sample of young adolescents in the canton of Vaud. Nevertheless, some limitations need to be mentioned. First, since the survey was cross-sectional, causality cannot be assumed. Second, results are based on self-report and it cannot be excluded that socially desirable answers were given; however, the fact that the questionnaire was anonymous should minimize this. Third, with the data collected in the survey we are unable to assess whether participants consider that online gaming is a way of socialization. Fourth, we do not know whether some of these youths do not use social networks because they do not want to or simply because they are not allowed to by their parents. Moreover, a small percentage (5.5%) of inactive youths still report using social media. This would mean that they could access them even without having an account, perhaps just to see what their peers do. How these youths live this situation and to what extent it is their own choice are important points that need to be included in future research.

5. Conclusions

The vast majority of young adolescents use social networks. However, this activity does not seem to be associated with academic problems. This means that, although rules on how to use social networks correctly must be taught and learned to avoid problematic use, using social networks should not be demonized but seen as an extension of the social life of youths. Yet, what we do not know is how these youths who are not active on social networks will develop over time, whether they will become users later or they will continue to self-exclude themselves from this kind of social interaction. Further longitudinal research is needed.

Declaration of Competing Interest

None.

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References

[1] Paakkari L, Tynjala J, Lahti H, et al. Problematic social media use and health among adolescents. Int J Environ Res Public Health 2021;18:1885.
[2] Shimoga SV, Erlyana E, Rebello V. Associations of social media use with physical activity and sleep adequacy among adolescents: cross-sectional survey. J Med Internet Res 2019;21:e14290.
[3] Ostendorf S, Wegmann E, Brand M. Problematic social-networks-use in german children and adolescents-the interaction of need to belong, online self-regulative competences, and age. Int J Environ Res Public Health 2020;17:2518.
[4] Vente T, Daley M, Killmeyer E, et al. Association of social media use and high-risk behaviors in adolescents: cross-sectional study. JMIR Pediatr Parent 2020;3: e18043.
[5] Suter L, Waller G, Bernath J, et al. JAMES - Jeunes, Activités, Médias - Enquête Suisse. Zurich: Zürcher Hochschule für Angewandte Wissenschaften; 2018.
[6] Sampasa-Kanyinga H, Colman I, Goldfield GS, et al. Sex differences in the relationship between social media use, short sleep duration, and body mass index among adolescents. Sleep Health 2020;6:601–8.
[7] Barthorpe A, Winstone L, Mars B, et al. Is social media screen time really associated with poor adolescent mental health? A time use diary study. J Affect Disord 2020;274:864–70.
[8] Thorisdottir IE, Sigurvinsdottir R, Kristjansson AL, et al. Longitudinal association between social media use and psychological distress among adolescents. Prev Med 2020;141:106270.
[9] Thorisdottir IE, Sigurvinsdottir R, Asgeirsdottir BB, et al. Active and passive social media use and symptoms of anxiety and depressed mood among icelandic adolescents. Cyberpsychol Behav Soc Netw 2019;22:535–42.
[10] Wang M, Xu Q, He N. Perceived interparental conflict and problematic social media use among Chinese adolescents: the mediating roles of self-esteem and maladaptive cognition toward social network sites. Addict Behav 2021; 112:106601.
[11] Sampasa-Kanyinga H, Goldfield GS, Kingsbury M, et al. Social media use and parent-child relationship: a cross-sectional study of adolescents. J Community Psychol 2020;48:793–803.
[12] Beeres DT, Andersson F, Vossen HGM, et al. Social media and mental health among early adolescents in Sweden: a longitudinal study with 2-year follow-up (KUPOL Study). J Adolesc Health 2021;68:953–60.
[13] Kreski N, Platt J, Rutherford C, et al. Social media use and depressive symptoms among united states adolescents. J Adolesc Health 2021;68:572–9.
[14] Schwartz D, Kelleghan A, Malamut S, et al. Distinct modalities of electronic communication and school adjustment. J Youth Adolesc 2019;48:1452–68.
[15] Baker RK, White KM. In their own words: why teenagers don't use social networking sites. Cyberpsychol Behav Soc Netw 2011;14:395–8.
[16] Barrense-Dias Y, Akre C, Berchtold A, et al. Sexual health and behavior of young people in Switzerland. Lausanne: IUMSP; 2018.
[17] Ljepava N, Orr RR, Locke S, et al. Personality and social characteristics of Facebook non-users and frequent users. Comput Hum Behav 2013;29:1602–7.
[18] Hibell B, Guttormsson U, Ahlström S, et al. The 2007 ESPAD report. Substance use among students in 35 European countries. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN); 2009.
[19] Cole TJ, Bellizzi MC, Flegal KM, et al. Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ 2000;320:1240–3.
[20] de Wit M, Pouwer F, Gemke RJ, Delemarre-van de Waal HA, Snoek FJ. Validation of the WHO-5 well-being index (WHO-5) in adolescents with type 1 diabetes. Diabetes Care 2007;30:2003–6.
[21] Pawlikowski M, Altstötter-Gleich C, Brand M. Validation and psychometric properties of a short version of Young's Internet Addiction Test. Comput Hum Behav 2013;29:1212–23.
[22] Berchtold A, Akre C, Barrense-Dias Y, et al. Daily internet time: towards an evidence-based recommendation? Eur J Public Health 2018;28:647–51.
[23] van den Eijnden RJ, Spijkerman R, Vermulst AA, et al. Compulsive internet use among adolescents: bidirectional parent-child relationships. J Abnorm Child Psychol 2010;38:77–89.
[24] Lopez-Fernandez O. Short version of the Smartphone Addiction Scale adapted to Spanish and French: towards a cross-cultural research in problematic mobile phone use. Addict Behav 2017;64:275–80.
[25] Dufour M, Brunelle N, Tremblay J, et al. Gender difference in internet use and internet problems among Quebec high school students. Can J Psychiatry 2016; 61:663–8.
[26] Tornay L, Michaud PA, Gmel G, et al. Parental monitoring: a way to decrease substance use among Swiss adolescents? Eur J Pediatr 2013;172:1229–34.
[27] Bjelland M, Soenens B, Bere E, et al. Associations between parental rules, style of communication and children's screen time. BMC Public Health 2015;15:1002.
[28] van den Eijnden R, Geurts SM, Ter Bogt TFM, et al. Social media use and adolescents' sleep: a longitudinal study on the protective role of parental rules regarding internet use before sleep. Int J Environ Res Public Health 2021;18:1346.
[29] Boer M, van den Eijnden R, Boniel-Nissim M, et al. Adolescents' intense and problematic social media use and their well-being in 29 countries. J Adolesc Health 2020;66:S89–99.
[30] Beyens I, Pouwels JL, van II D, et al. The effect of social media on well-being differs from adolescent to adolescent. Sci Rep 2020;10:10763.