

Do Online Friendships Contribute to the Social Development of Children and Teenagers? The Bright Side of the Picture

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Abstract

Youths worldwide have adopted social networking sites (SNSs) with incredible speed. We tested the following four questions: (a) Do children and teenagers view SNSs as a platform for fulfilling their psychological needs? (b) Do SNSs create a new type of mega-inflationary-friendship? (c) Do SNSs provide a compensating, complementing, and alternative sphere to FtF? (d) Do children view SNSs as improving their self-esteem, self-efficacy, and self-satisfaction? The study used a mixed method; the sample included 163 respondents who completed questionnaires and 48 children who were interviewed (N=211). For each hypothesis, differences between gender and age groups were considered. The findings reveal the central and important role SNSs play for children and teenagers in fulfilling their social needs and improving their self-esteem.

Key Words: social networking, Facebook, Whats App, friendship, social development, children, teenagers, self-determination theory (SDT)

1. Introduction

Social networking sites (SNSs), such as Facebook and Whats App, are the most popular online sites used by adolescents (Alexa Internet Inc., 2011; Stevens et al., 2016). The fabric of our social interactions has recently extended to integrate SNSs, which are now widely used as a medium for communication and networking (Boyd, 2014; Brettel, Reich, Gavilanes, & Flatten, 2015; Valkenburg & Peter, 2009). SNSs allow people to present themselves, map their list of friends, maintain connections with them, and form new connections through intra-site interactions (Ellison, Steinfield, & Lampe, 2007; Sheldon, 2008). According to estimates, 81% of online teenagers use social media sites, and 94% of teen social media users have a Facebook account (Madden et al., 2014). The number of children and youths using social networks is on the rise. Children report spending about 39 hours/month online (The Norton Online Living Report, 2009), and although young people use the Internet for instrumental and communication purposes, the latter is particularly salient in their lives (Dowdell, Burgess, & Flores, 2011; Subrahmanyam & Greenfield, 2008; Zhang & Leung, 2014). By 2006, more than 90% of American teenagers (ages 12 to 17) were using the Internet, and 55% of them reported that they surfed social networking sites and had at least one active profile (Lenhart, Madden, & Smith, 2007). The present study examines four questions described below.

2. Children's social world and the SNSs

2.1. Do children and youth view SNSs as an arena for satisfying their social needs?

As social creatures, individuals aspire to a sense of belonging to a social group, in order to gain recognition and affection from others. Interpersonal relationships play an important role in satisfying these basic human needs (Baumeister & Leary, 1995; Maslow, 1943). Friendships satisfy several essential psychosocial needs for children and adolescents, which are not satisfied by other types of relationships.

Friends allow individuals to develop intimacy, empathy, and perspective-taking skills, as well as skills for conflict resolution. They also provide companionship, emotional acceptance, and a sense of connectedness, inclusion, and affiliation (e.g., Buhrmester, 1990). Studies show that adolescent friendships are reliable predictors of overall wellbeing, self-esteem, and social adjustment (Berndt, 1996; Hartup, 1992). A fundamental question is whether SNSs can fulfill children's social needs. It might be argued that SNSs make it easier for children to fulfill their basic social needs, in that they provide individuals with numerous alternative ways to connect with friends and form new friendships (e.g., Bonebrake, 2002). Some argue that today's SNSs have challenged our understanding of the term "friend" by labeling every relation a child may have as a friend, without addressing the different degrees of closeness that characterize real-life interactions (Donath & Boyd, 2004; Tong et al., 2008). Others argue that SNS-enabled social interactions may at times be shallow (Buffardi & Campbell, 2008). This raises a question about the quality of SNS relationships: are SNS interactions nothing more than a form of distraction and a source for transient pleasant mood, (e.g., Sheldon, Abad, & Hinsch, 2011), in return for which the individual risks losing social capital in offline communities (Kim, LaRose, & Peng, 2009; Williams, 2006), or can we consider them genuine, need-fulfilling relationships? These questions lead to the first research question: do SNSs have the power to fulfill basic social human needs? Based on studies concerning friendship quality, which demonstrate the benefits of using computers with friends (e.g., Desjarlais & Willoughby, 2010), and on studies concerning the benefits of the Internet for children with specific characteristics (e.g., Peter, Valkenburg, & Schouten, 2005), we expected SNSs to meet some of these needs. The current study, however, first investigates which theoretical construct can be used to answer this question, and only then makes use of its conceptualizations in order to properly answer it.

2.2. Do SNSs create a new type of mega-inflationary-friendship?

Given the vast number of opportunities to form friendships in online contexts, it is important to examine whether online friendships share common characteristics with offline, face-to-face ones (Buote, Wood, & Pratt, 2009). Some studies have stressed the similarities between online and offline interpersonal relationships (Bonebrake, 2002; Wang, Moon, Kwon, Evans, & Stefanone, 2010); others have focused on the differences between the two (e.g., Buote, Wood, & Pratt, 2009; Desjarlais & Willoughby, 2010; Tong et al., 2008). Bonebrake (2002) suggests that several aspects of the Internet medium interact to make the course of relationship development online different from the development of its offline counterpart. For example, as opposed to online friendships, an essential condition for making offline friends is repeated contact within spatial proximity. Existing definitions of friendship were formulated based on FtF relationships that generally include a close circle of 10-20 friends (Parks, 2007), and larger, more distant circles of about 50 friends and acquaintances (Dunbar, 1993). But studies show that individuals acquire significantly more friends with SNSs (e.g., Donath & Boyd, 2004; Sheldon, 2008; Tong et al., 2008). Studies profiling teenage populations show an average of 75 friends among 13-18 year olds (Harris Interactive, 2006), and 37 friends among 8-17 year olds (The Norton Online Living Report, 2009). To study the nature and characteristics of children's online friendships, we asked children how many friends they have on Facebook. We also examined whether a positive relation exists between age and the number of SNS friends, and compared it with a previously reported positive relation between age and time spent with FtF friends (Feiring & Lewis, 1989). Finally, we examined whether close SNS friends are also considered close FtF friends, in light of Livingstone's (2008) claim that the simple distinction between offline and online no longer captures the complex practices associated with online technologies, as they become thoroughly embedded in the routines of everyday life.

2.3. Do SNSs provide a compensating, complementing, and alternative sphere to FtF?

Various studies describe the social advantages of using computers with friends as a support tool for FtF social interactions, as for example, promoting positive friendship quality (for a review, see Desjarlais & Willoughby, 2010). Given the growing popularity of SNSs among children and adolescents, the question arises whether SNSs have become a compensating, complementing, and alternative sphere to FtF; which of these do they find of greater interest; where do they feel more able to express their social abilities and where they are more socially active. Some of these characteristics are a lower perceived price of accepting new members (Acar, 2008), diminished importance of physical appearance, lack of direct eye contact, greater control over the time, place, and pace of interactions, and the ease of finding others similar to oneself.

Studies have shown that computers, and specifically the Internet, can provide a compensatory platform for advancement of social interactions for individuals with various unpopular personality characteristics, social difficulties, as well as for socially anxious individuals (Desjarlais & Willoughby, 2010); shy people (Orr et al., 2009), people with low self-esteem (Ellison, Steinfield, & Lampe, 2007; Steinfield, Ellison, & Lampe, 2008), introverts and extroverts (Peter, Valkenburg, & Schouten, 2005), and even individuals with good social skills (the rich get richer hypothesis; Kraut et al., 2002) may all stand to gain from such interaction. The present study further examines age and gender differences in SNS-FtF preferences, given that studies have shown FtF differences in these parameters (La Greca & Harrison, 2005). For example, it has been shown that adolescent boys typically develop and sustain FtF friendships through shared activities and interests, whereas adolescent girls report engaging in discussion and personal disclosure behaviors as a means for developing intimacy with their friends (Caldwell & Peplau, 1982; Camarena et al., 1990; McNelles & Connolly, 1999). Examination of the influence of gender on undergraduate students' use of online SNSs has found that men reported using these sites for forming new relationships whereas women reported using them more for relationship maintenance (Muscanell & Guadagno, 2012). Based on these findings concerning gender differences, both in online and offline interactions (see also Desjarlais & Willoughby, 2010), the study hypothesizes that gender differences are also found in SNS-FtF preferences of children and adolescents.

2.4. Developmental advantage of using SNSs

The present study hypothesizes that children and adolescents perceive SNS interactions as enhancing their self-esteem, self-efficacy, and self-satisfaction. Previous findings regarding FtF friendships, which found that adolescent friendships are reliable predictors of overall wellbeing, self-esteem, and social adjustment during childhood and adolescence, support this hypothesis (Berndt, 1996; Hartup, 1992). The hypothesis is also supported by studies that have examined the relationship between technology and psychological wellbeing (for a review, see Amichai-Hamburger, 2009). For example, Shaw and Gant (2002) found a decrease in perceived loneliness and depression, and an increase in perceived social support and self-esteem among undergraduate students following engagement in online chat sessions. Using an online survey, Valkenburg et al. (2006) showed that the frequency with which adolescents used SNSs indirectly affected their social self-esteem and wellbeing. In the fourth research question, the study seeks to expand previously reported findings with an offline survey of children and adolescents, asking direct questions about the relationship between SNS use and the children's self-esteem, self-efficacy, and self-satisfaction. Children feel that social networks (Zilka, 2016, 2014) extend their ability to communicate with others and empower the feeling of being socially connected. Social networks provide a sense of belonging, experiences of close friendships, and a sense of social acceptance, as opposed to feelings of loneliness and alienation. These kinds of interactions create in children a sense of self-worth, of being needed, of contributing significantly to the environment. They also provide an opportunity to demonstrate abilities and to receive appreciation and feedback from the environment, thus adopting and developing the appropriate skills required by the new environments and the society in which the children live.

Social networks make up a new social sphere, similar to FtF friendships and based on them, but different, without clear rules, and without principles and clear boundaries. They form a new sphere that creates a feeling of familiarity. The children feel that the social networks create an alternative and compensatory domain that satisfies their interpersonal needs. But the children operate in an environment that gives them a sense of vast space, without limits, offering countless possibilities. It is easier to hurt people online than face-to-face. The frequent use of these networks, the many hours spent every day without clearly enforced boundaries or supervision, may lead users, who are not defined initially as being at risk, into difficult situations of risk and harm to others. Concerned parents often try to restrict entry to various sites and to limit television watching, but this leads to a deterioration of the relationship between parents and children, and increases the distance and misunderstandings between them. Today more than ever, children are exposed through the various media to different models of parenting, human behavior, and children's behavior. Today the parent's role is more complex than it was in the past, and less clear (Coyne, Robinson, & Nelson, 2010; Thomas, Cooke, & Scott, 2005). Children surfing for many hours, without any limits, may be harmed (Conners-Burrow, McKelvey & Fussell, 2011; Haridakis & Rubin, 2009; Hough & Erwin, 2010). Research shows that parents try to limit the surfing time of their children, but cannot find another alternative for the children's need to surf the social networks, which results in conflict between parents and children. Parents reported having quarrels and difficulties, and rejection by their children of proposed alternatives (Evans, Jordan, & Horner, 2011).

Restricting viewing is difficult to implement, causes many conflicts, and is usually ineffective, because children find other means or other places to watch the programs and surf the websites they choose.

2.5. The present study

The present study seeks to answer the following four questions: (a) Do children and teenagers view SNSs as a platform for meeting their psychological needs? (b) Do SNSs create a new type of mega-inflationary-friendship? (c) Do children perceive SNSs as providing a compensating, complementing, and alternative sphere to FtF? (d) Do children view SNSs as improving their self-esteem, self-efficacy, and self-satisfaction?

3. Methodology

We used a sample of Israeli schoolchildren to examine the relationship between gender, age, and SNS use. The study used a mixed method. *Sample.* The sample of schoolchildren was drawn from seven primary and middle schools, from different socio-demographic regions in the country. A total of 211 school children participated: 163 (95 [58.3%] boys and 68 [41.7%] girls) answered questionnaires and 48 were interviewed. Ages of children who answered the questionnaires ranged from 7 to 16 ($M=11.09$, $SD=2.24$); 47 (28.8%) were 2nd-4th graders, 60 (36.8%) were 5th-6th graders, and 56 (34.4%) were middle-school students (7th-9th graders). Of the children, 94.5% were native Israelis, 4.3% were born in Europe or America, and 1.2% was born in Ethiopia. Questionnaires were handed individually to the participants upon consent by their parents and school administration. Each participant completed the questionnaire while sitting in a quiet classroom.

3.1. Measures

3.1.1. Qualitative research method: Semi-structured interviews

Forty-eight children (24 boys and 24 girls) were interviewed. Interviews were transcribed and analyzed using thematic analysis (Boyatzis, 1998; Crabtree & Miller, 1992), which involves identifying themes in the data through a recursive process of careful reading and rereading. Based on Braun and Clarke (2006), our analyses followed a process of familiarizing ourselves with the narratives, generating initial codes, collating codes into potential themes, gathering the data relevant to each potential theme, and finally generating a thematic “map” of the analysis. The themes we found belong to two central foci. The first focus, which we called *psychological needs*, included three themes: satisfying the need for autonomy, satisfying the need for competence, and satisfying the need for relatedness. The second focus, which we named *recreation*, included two themes: the desire to play and the desire to “pass the time.”

Psychological needs. This focus included expressions regarding the ability of the SNSs to satisfy innate psychological needs. The expressions of this focus fit well with the conceptualization of the self-determination theory of human needs. According to self-determination theory (Deci & Ryan, 1991; Ryan & Deci, 2000), there are three innate psychological needs: autonomy, competence, and relatedness. The findings suggest that Facebook may serve as a setting that helps satisfy these basic psychological needs of the youths. Autonomy concerns people's feelings of volition, agency, and initiative (e.g., Deci & Ryan, 1985). The first theme of this focus, *satisfying the need for autonomy*, included expressions that refer to satisfying the youths' need for self-initiation and agency. For example, one girl stated: "On Facebook I feel more independent to do what I feel like." A boy stated: "It's different; it's not like in the classroom, where you need to match up to what all your friends are thinking and doing. You can do what you want. For me it's more fun because I feel freer to do what I want." Another girl said: "On Facebook I am more who I am, I don't need to constantly worry what other people are thinking, so I'm less shy, and I initiate all kinds of things I feel like."

Competence refers to people's feeling of curiosity, challenge, and efficacy (Deci, 1975). The second theme of the first focus, *satisfying the need for competence*, included expressions that attest to the need of the children to feel self-efficacy and competence. One boy said: "I feel that it is easier for me to express myself when I'm responding on Facebook, more than when I'm talking to someone face-to-face. I don't stutter, I can check what I write before I send it. I see that others respond to me without insulting me. In the classroom I have to try hard to speak up in class, but on Facebook I say what I have to say with no problem." One girl said: "It's easier to communicate with friends." Another girl said: "I succeed in saying what I'm thinking and want because I have the time to think about what and how to write." Another boy said: "Facebook increased my self-esteem. I'm now socially involved, helping out in social activity initiatives and parties."

Once I used to not open my mouth because I used to start shaking and blushing." Another boy said: "On Facebook I succeed in doing plenty of things that in the classroom I'm not capable of doing... I talk with kids that in class I wouldn't have had the guts to talk to." Relatedness refers to feelings of being connected with and cared for by another (Ryan, 1993). The third theme of the first focus, *satisfying the need for relatedness*, included expressions that attest to the children's need to feel connected to others. Many of the children we interviewed shared with us that Facebook gives them a sense of belonging: "To feel a part of a group... accepted... that my friends like me." "I feel today part of my class more so than in the past, because I'm on Facebook, and I'm helping my friends with homework and finding information, choosing movies, and more things like that, which I don't do in class, but only on Facebook, and then I feel more a part of things, together with everyone, and that the others in class care about me." Another child said: "On Facebook I feel that I have lots of friends, I'm not alone, I have friends who look out for me and care about me." One boy said: "I feel that my friends are pleased with the things I write on Facebook and respond to me, asking me questions. I also help them find good movies, information for homework... Like, on Facebook it's more fun with friends, everyone is together this way." Another girl said: "Ever since I'm on Facebook with my classmates, I feel like I belong so much more to my class. In the past I didn't want to be their friend on Facebook, because I don't really like to stand out in class, and I thought it would be the same on Facebook, but it's entirely different. I feel that I'm able to express myself and my feelings on Facebook, and I feel that they care about me."

Recreation. This focus included expressions attesting to the ability of the SNS to satisfy the children's need for recreation. The first theme, *desire to play*, included expressions concerning the children's desire to play alone or with friends the games available on the SNS. For example: "There are many option for great games," "You always find some cool games," and "You can play alone or with others." The second theme, *desire to pass the time*, included expressions concerning the children's desire to fill their spare time. For example: "When you don't have anything to do you can always get to Facebook and without noticing two hours are gone," and "It doesn't matter at what time, I'll always find something to do to pass the time, even in the middle of the night, or if you don't go to school on a given day."

3.1.2. Quantitative research method

Based on the pilot survey, the final survey included 27 questions belonging to two domains: (a) SNS use, and (b) computer ownership and Internet access.

SNS use

This construct was measured by 21 individual questions formulated for the present study. The items explored dimensions relating to SNS use: satisfaction of innate psychological needs, number and quality of relationships and interactions with SNS friends, preference for SNS social interactions over FtF interactions, and benefits of using SNSs.

Computer ownership and Internet connectivity

Six items asked about home computer ownership, number of computers and duration of ownership, Internet access, and possible reasons for lack of Internet access or lack of a home computer.

4. Results

4.1. Sample statistics

Ownership of at least one computer at home connected to the Internet was 43 (91.5%) for 2nd-4th graders, 56 (93.3%) for 5th-6th graders, and 47 (83.9%) for middle-school students. Age group and gender were found to be unrelated to computer ownership ($\chi^2_{(2)}=3.20$, & $\chi^2_{(1)}=1.18$, n.s. for both, respectively), and were unrelated to the number of usable computers at home ($F_{(2,148)}<1$ & $F_{(1,149)}=1.08$, n.s., respectively) and to the number of years of computer ownership ($F_{(2,148)}=2.23$ & $F_{(1,149)}=2.28$, n.s. for both, respectively). Participation in SNSs was high and similar across gender and age groups ($\chi^2_{(2)}<1$ for both variables): 43 (91.5%) of the 2nd-4th graders, 56 (93.3%) of the 5th-6th graders, and 51 (91.1%) of middle school children reported using SNSs, as did 89 (93.7%) of the boys and 61 (89.7%) of the girls. Facebook use, however, was significantly lower for 5th-6th graders ($n=47$ [78.3%]) than for 2nd-4th graders ($n=44$ [95.7%]) and middle school children ($n=50$ [89.3%]; $\chi^2_{(2)}=7.31$, $p<.05$), as well as for girls ($n=55$ [80.9%]) than for boys ($n=86$ [91.5%]; $\chi^2_{(1)}=3.94$, $p<.05$). The second most used SNS was Twitter.

Twitter use was significantly higher for 5th-6th graders ($n=11$ [18.3%]) than for 2nd-4th graders ($n=2$ [4.3%]) and for middle school children ($n=3$ [5.4%]; $\chi^2_{(2)}=7.69$, $p<.05$), and similar for girls ($n=8$ [11.8%]) and for boys ($n=8$ [8.5%]; $\chi^2_{(1)}<1$).

4.2. Hypothesis testing

The first research question asked whether social networks can meet the youths' innate psychological needs and whether need fulfillment is related to age group and gender. The study employed χ^2 tests to examine these possible relations. Seventy-seven (47.8%) of the 161 participants reported that SNSs met their need for autonomy, 78 (48.4%) participants reported that SNSs met their need for relatedness, and 43 (26.4%) participants reported that SNSs met the need for competence. No significant relationship was found with age group (all $\chi^2_{(2)}<1.90$, n.s.) or gender (all $\chi^2_{(1)}<2.26$, n.s.) for any of the needs tested. The study also employed χ^2 tests to examine the alternative hypothesis, suggesting that social networks are used for play and passing the time, and to examine whether these activities were related to age group and gender. Fifty four (33.3%) participants reported using SNSs to pass the time and 60 (37%) participants reported using SNSs to play games. Use for play was related to age group ($\chi^2_{(2)}=30.17$, $p<.001$) but not to gender ($\chi^2_{(1)}=1.58$, n.s.), and use for passing the time was related neither to age group ($\chi^2_{(2)}=5.49$, n.s.) nor to gender ($\chi^2_{(2)}<1$). The older the participants' age group, the less they used SNSs for playing games: from 30 (65.2%) for 2nd-4th graders, to 23 (38.3%) for 5th-6th graders and 7 (12.5%) for middle-school students.

The second research question focused on the number of friends on SNSs and their age. The study employed χ^2 tests to examine whether the number of online friends and their age groups were related to participants' age group and gender. The number of friends was significantly related to age group ($\chi^2_{(4)}=27.36$, $p<.001$) but not to gender ($\chi^2_{(2)}=1.46$, n.s.), and the age of friends was related neither to age group ($\chi^2_{(6)}=5.64$, n.s.) nor to gender ($\chi^2_{(3)}=3.10$, n.s.). Findings show that as they mature, participants report having more online friends. The study also examined whether participants' close FtF friends were also their close SNS friends. One hundred thirty-three (84.7%) participants reported that their close FtF friends were also their close SNS friends. Age group and gender were not associated with response patterns on this item ($\chi^2_{(2)}=4.28$, n.s. & $\chi^2_{(1)}<1$ respectively). The third research question examined whether SNSs provide a compensating, complementing, and alternative sphere to FtF. To answer this question, the study examined reported differences in self-confidence when starting a conversation and when discussing specific subjects in FtF vs. SNS interactions. The study also examined which of the spheres participants felt to be more supporting of interaction and communication, cooperation, and mutual assistance, and what was the level of their involvement and participation in SNS activities compared to FtF. The study also tested whether age group and gender were associated with these factors.

Seventy-four (47.7%) participants reported that they often felt improvement in self-confidence levels when starting a conversation on SNSs compared to FtF, and 35 (22.6%) felt some improvement on SNSs from time to time. The rest felt that there was no difference between the two spheres (20.7%) or felt improvement in self-confidence levels when starting a conversation in FtF interactions (9%). Age and gender were not associated with difference in self-confidence ($\chi^2_{(4)}=2.41$, n.s. & $\chi^2_{(2)}=4.31$, n.s. respectively). Likewise, 69 (45.1%) participants reported that they often felt improvement in self-confidence levels when conversing about specific topics online compared to FtF, and 32 (20.9%) felt some improvement on SNS from time to time. The rest felt that there was no difference between the two spheres (12%) or felt improvement in self-confidence in FtF interactions (22%). Age group and gender were not associated with difference in self-confidence ($\chi^2_{(4)}=7.77$, n.s. & $\chi^2_{(2)}=3.69$, n.s., respectively). Furthermore, 98 (64.9%) participants felt that they could better express talent and capabilities online than in FtF interactions. There was no association of age group and gender with this item ($\chi^2_{(2)}=1.28$, n.s. & $\chi^2_{(1)}<1$, respectively). One hundred eighteen (79.7%) participants felt that SNSs helped them become more involved in their social lives and more able to consolidate their relationships with the people around them. Again, there was no association of age group and gender with this item ($\chi^2_{(2)}=5.68$, n.s. & $\chi^2_{(1)}<1$, respectively).

Eighty-seven (56.9%) participants felt that better communication and interaction took place on SNSs, whereas 60 (39.2%) felt that these were better FtF, and six (3.9%) felt they were the same in both spheres. Age group and gender were not associated with this item ($\chi^2_{(4)}=1.45$, n.s. & $\chi^2_{(2)}<1$, respectively). Fifty (33.3%) participants felt that better cooperation took place online, whereas 93 (62%) felt that it was better FtF, and seven (4.7%) felt that it was the same in both spheres. Age group and gender were not associated with this item ($\chi^2_{(4)}=2.27$, n.s. & $\chi^2_{(2)}=3.29$, n.s., respectively). Thirty-six (24.3%) participants felt that better mutual assistance occurred on SNSs, whereas 100 (67.6%) felt that it was better FtF, and 12 (8.1%) felt that it was the same in both spheres.

Both age group and gender were associated with this item ($\chi^2_{(4)}=20.99$ $p<.001$ & $\chi^2_{(2)}=8.47$, $p<.05$, respectively). Twenty-two (44.9%) middle-school students, compared to fewer than 16.4% in each of the other groups, felt that there was greater mutual assistance online than FtF, and 26 (30.6%) boys, compared to only 10 (15.9%) girls, felt that there was greater mutual assistance on SNSs than FtF. Sixty-one (40.4%) participants felt that membership in SNSs had replaced FtF friendships for them. Both age group and gender were associated with this item ($\chi^2_{(2)}=8.50$ $p<.05$ & $\chi^2_{(1)}=3.86$, $p<.05$, respectively). Twenty-six (51.0%) middle-school students and 26 (44.1%) 5th-6th graders, compared to nine (22%) of 2nd-4th graders felt that membership in SNSs replaced FtF friendships, a feeling more dominant among boys ($n=41$ [47.1%]) than among girls ($n=20$ [31.3%]). Additionally, 50 participants (33.6%) reported SNSs to be their main sphere of social activity, compared to 100 (66.4%) who did not think so. Age group but not gender was associated with this item ($\chi^2_{(2)}=6.38$ $p<.05$ & $\chi^2_{(1)}=1.14$, n.s., respectively). Twenty one (44.7%) middle-school students and 20 (35.1%) 5th-6th graders, compared to nine (20%) 2nd-4th graders reported SNSs to be their main sphere of social activity.

Finally, 39 (26.5%) participants felt that online conversations were more interesting, compared to 50 (34%) who felt FtF conversations to be so, and 58 (39.5%) who felt conversations in both spheres to be equally interesting. Both age group and gender were associated with this item ($\chi^2_{(4)}=10.77$ $p<.001$ & $\chi^2_{(2)}=8.61$, $p<.05$, respectively). Twenty (41.7%) middle-school students, compared to 10 (17.2%) 5th-6th graders and nine (22%) 2nd-4th graders felt online conversations to be more interesting than FtF conversations, a feeling more dominant among boys ($n=27$ [31.8%]) than among girls ($n=12$ [19.4%]). The fourth research question explored the possible advantages of SNS membership. The present study found that following the use of SNSs, 88 (58.7%) participants felt that their attitudes towards themselves has improved, 98 (65.3%) participants felt that their self-efficacy has improved and that they were better capable of performing significant tasks, and 101 (66.9%) participants reported higher self-satisfaction.

5. Discussion

The findings of the present research indicate that children and adolescents view SNSs as playing a pivotal role in satisfying their innate psychological needs and enhancing their self-esteem. The first research question addressed the issue of whether children and adolescents view SNSs as an arena for satisfying their innate psychological needs, not merely as a casual and entertaining way of passing the time, without deep or meaningful psychological benefits. The qualitative part of the research revealed the recurrent themes of SNSs satisfying the need for autonomy, competence, and relatedness. The study used the theoretical framework provided by self-determination theory (Deci & Ryan, 1991; Ryan & Deci, 2000) and quantitative methods of inquiry to answer the question whether innate psychological needs can be satisfied by participating in SNS social interactions. About half the participants (47.8%) reported that SNSs provide them with a sense of autonomy. About the same number of participants (48.4%) reported that SNSs meet their need for relatedness. The alternative hypothesis, according to which SNSs provide a way to pass the time and play games, was examined by asking participants whether they use SNSs for these functions. A third (33.3%) of participants reported using SNSs to pass the time and 37% indicated that SNSs serve for them as a platform to play games.

Primary school participants were more inclined to use SNS platforms for games (65.2% of 2nd-4th graders and 38.3% of 5th-6th graders, compared with 12.5% of middle-school students), but no gender differences were found when examining the use of SNS platforms for games and for passing the time, despite the fact that such differences have been reported in the literature for FtF interactions (Lever, 1976). In support of the two alternative hypotheses related to the first research question, the study found that regardless of age group and gender, SNSs meet innate psychological needs and provide a means to pass the time and play games. The second research question focused on the number of friends the children have and addressed the issue of whether SNS and FtF social interactions are similar with regard to the number of friends, making it possible to extend existing definitions of friendship to include SNS friendships. Although the number of online friends among participants was markedly higher (approximately two thirds reported more than 100 friends) than the numbers reported in the literature regarding FtF friends (Newcomb & Bagwell, 1995), 84.7% of participants reported that their close FtF friends were also their close online friends (see also Peter et al., 2006), regardless of gender and age group. It appears, therefore, that two types of friendships exist on SNSs: the close and personal FtF friends with whom one also interacts on SNSs, and a wider, more removed circle of friends, whose characteristics differ from those of FtF friendships. The large number of online friends, and the existence of the presumably two distinct circles of friends, highlights the need to modify current definitions of friendship in order to accommodate SNS friendships.

The question arises whether models of FtF interactions can be borrowed and adapted for this purpose to allow a better understanding of wide-circle interactions online. For example, it has been suggested that in FtF interactions close friendships are a source of affection and intimacy, whereas the wider peer groups provide feelings of belonging (Furman & Robbins, 1985). Others have pointed out the importance of weak ties as a source of novel information (Granovetter, 1973). There are also similarities between the two arenas of social interaction, specifically regarding changes in the number of friendships in the course of maturation. Previous studies have shown that as children get older, FtF friendships become more central in their lives (Feiring & Lewis, 1989) and are held in greater regard (Buhrmester & Furman, 1987; Pitcher & Schultz, 1983). The results of the present study confirm the general trend discussed above, within the framework of online networks. Although no differences were found between the age groups with regard to the number of participants in SNSs (91.1%, 91.5%, 93.3%), the study found that the older the children become, the higher the number of their SNS friends is. The third research question addressed children's and adolescents' perception of whether SNSs provide a compensating, complementing, and alternative sphere to FtF.

The results show that 33.6% of participants reported that most of their social activities occur online. Additionally, 26.5% reported that SNS interactions interest them more than FtF interactions, and 39.5% reported that they found FtF and SNS interactions equally interesting. Many of the participants (47.7%) reported that they often felt greater self-confidence when starting a conversation on SNS than FtF, and 56.9% reported that they felt that better communication and interaction occurred online than FtF. In the same vein, 64.9% of participants felt that they could express talent and capabilities online that they could not express in FtF interactions, and 79.7% felt that SNSs helped them become more involved socially and consolidate their relationships with the people around them. By contrast, 62% of participants reported feeling better cooperation, and 67.6% feeling greater mutual assistance FtF than on SNSs. Consistent with the third hypothesis, the study found gender differences in SNS-FtF preferences. Boys were significantly more likely than girls to report that membership in SNSs served as a replacement for FtF interactions and that online conversations were more interesting than FtF interactions. Boys were also significantly more likely to report that more mutual help occurs online than FtF.

This finding should be assessed in light of the FtF literature, which indicates that girls acquire fewer friends than boys (Belle, 1989; Lever, 1976), but that these friendships are more deep and intimate than those of the boys (Belle, 1989; Furman & Buhrmester, 1985; Pitcher & Schultz, 1983). A possible explanation for the gender differences is that boys compensate for lack of FtF intimacy with online intimacy or that online friendships better suit boys because of the inherent lack of intimacy on SNSs. A possible argument in support of the first alternative is that SNSs have a clear advantage as an arena for shared activities, such as playing games, and findings show that shared activities are acknowledged as important for increasing intimacy among boys (e.g., Maccoby, 1990; McNelle & Connolly, 1999).

The results of the present study show that the focus of social interaction shifts with advancing age from FtF to SNSs, in parallel with the increase in the importance of social interactions. For example, the findings show that 44.7% of adolescents (middle-school students) reported that SNSs were their main arena for social interactions (compared to 20% of 2nd-4th graders), and 51% of them felt that membership in SNSs has replaced FtF friendships (compared to 22% of 2nd-4th graders). Similarly, middle-school students displayed significantly more interest in SNS interactions than in FtF interactions (41.7% of middle-school students compared to 17.2% of 5th-6th graders and 22% of 2nd-4th graders). The fourth research question addressed the developmental advantages of online social interaction. The study predicted that if online interaction can be found to compensate for various needs that were not met by FtF interaction, this compensation can be assumed to have a positive effect on the child's self-perception. As predicted, the study found that 58.7% of participants reported improved attitudes toward themselves following SNS use. Additionally, 65.3% of participants reported improved self-efficacy and feelings of capability in performing significant tasks. Similarly, 66.9% of participants reported higher self-satisfaction following SNS use. This finding may be especially important in explaining the positive role of a compensatory process, which may underlie the preference for SNS as an alternative arena for unsatisfying FtF relationships. In conclusion, social networks allow children and youths to enhance their capabilities and expand the options available to them, for better or worse. They also provide yet another social sphere that meets their needs. SNS interactions are similar to FtF friendships but also different, without clear rules, without clear principles and boundaries. They are a new sphere that creates a familiar feeling. In this environment, a blurring is liable to occur between what is private and public, between the need to comment and protest on one hand and the need for silence on the other.

At times, the blurring of the boundaries between expression and silence creates difficult situations resulting in verbal abuse, intimidation, boycotts, rumors, seduction, the uploading of harmful content, and more. Parents who are concerned about their children surfing the Internet and who fear its dangers and temptations, at times try to prevent the children from accessing the social networks. But instead of improving the situation, such action can result in a deterioration of the relationships between parents and children, and increase the distance and lack of understanding between them. It is important to make every effort to meet the needs of the children, not only to try to prevent their surfing. Children choose to surf sites that meet their needs. It is advisable to conduct a dialogue with the children, and to devise together with them ways to create clear boundaries, without punishment.

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