



Family Social Capital Among Adolescents that Are Users and Non-users of Social Media

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Received 2018 August 11; Revised 2022 January 16; Accepted 2023 June 24.

Abstract

Background: Considering the time spent with family is essential for the growth and development of adolescents, the replacement of these times with using social media can raise questions.

Objectives: This study addressed the question of whether there is a difference in family social capital between adolescents that are users and non-users of social media.

Methods: Data were collected from 3600 adolescents aged 12 - 19 years in Isfahan, Iran, using a cross-sectional study design with stratified, 2-stage cluster sampling. Participants were recruited from schools and surveyed between January and March 2017. Family social capital was assessed using a researcher-made questionnaire with adequate validity and reliability. The independent 2-sample *t*-test, Kruskal-Wallis test, 1-way analysis of variance (ANOVA), and Games-Howell post hoc test were used to analyze the data.

Results: More than 76% of the adolescents were social media users. Males reported higher membership rates compared to females. There was a meaningful difference between the mean scores in all dimensions of family social capital, including family interactions, family cohesion, family monitoring, and family conflicts ($P < 0.001$), and the non-user group scored better in these dimensions. There were gender-based differences between some dimensions of family social capital ($P < 0.05$). There were no statistically meaningful differences between the frequencies of users in the 3 socioeconomic classes of the study ($P > 0.05$). Some dimensions of family social capital, including family cohesion and family monitoring, were better in users from higher socioeconomic classes ($P < 0.05$).

Conclusions: The results indicate a difference in the family social capital between adolescents that are users and non-users of social media.

Keywords: Adolescent, Social Capital, Social Media

1. Background

The concept of social capital is becoming increasingly popular in studies related to the social determinants of health (1). Social capital can be observed at different levels, including the individual level, mid-levels (such as neighborhoods, workplaces, and educational institutions), and major levels (such as regional or nationwide). Family social capital, also known as the family level of social capital, has been recognized as another level of social capital that has been neglected in recent years (2). Family social capital indicates support and resources obtained from family relationships and is concerned with the quality and quantity of such relationships (3). As a basic social structure, family is one of the most important factors influencing the members'

behavior and their relationships with the overall ecologic system (4). Studies have indicated that in the presence of risk factors (such as poverty and low human capital), family social capital acts as a protective factor for children and adolescents (5).

On the other hand, social media is rapidly becoming a central part of people's lives (6). The expanded and increased popularity of social media has changed the aspects of individuals' social life (7, 8). This raises an important question about the social implications and consequences of social media use (9), reminding the importance of studying their influence on the social capital of users (10). Considering that the time spent with family and on family interactions (that is, family social capital) is essential for the growth and development of

adolescents, the replacement of these times with using social media can raise questions. This is especially true for younger adolescents, whose interactions and relationships with their parents lead to their physical and cognitive evolution in addition to improving their social development (11).

There are conflicting results on the influence of social media usage on the quantity and quality of family relationships; while some studies report negative effects, others report the opposite (9, 12, 13). In other words, some argue that social media have an overall negative effect on family social capital components. In particular, these studies suggest that social media usage reduces the time dedicated to family, and there is a negative relationship between these two variables (14, 15). In contrast, others argue that social media have a positive effect on family social capital components. In particular, these studies suggest that social media can help family members communicate efficiently (16), as well as increase parenting efficacy (17). A primary cause of these contradictions is the absence of a study that compares users and non-users.

2. Objectives

The present study was designed to address this gap by examining the dimensions of family social capital (including family interactions, family cohesion, family monitoring, and family conflicts) among young users of social media and comparing them to non-users.

3. Methods

3.1. Participants, Sample Size, and Sampling Method

This analytical cross-sectional study enrolled 3600 school students aged 12-19 years in Isfahan, Iran. This study has been extracted from a doctoral dissertation, which in the first part of this dissertation, results were reported with the aim of psychometric measurement scales and the relationships between variables using structural equation modeling (SEM) (18). To assign samples to strata and clusters, a randomized multi-stage sampling design using probability proportional to size (PPS) was used. At first, Isfahan was divided into 3 privileged, semi-privileged, and sub-regions according to the socio-economic status (SES) variable (19). Then, 6 boys' schools and 6 girls' schools were selected as clusters from each stratum using simple random sampling.

The minimum sample size required for SEM was determined by following guidelines that recommend a desirable ratio of 20 cases per estimated parameter (20). The research hypothesis was that the most complex SEM

model could have about 25 parameters. Therefore, 20 cases were considered for each parameter ($n = 500$). According to 2 strata variables ($3 \times 2 = 6$) and the independence of the strata in allocating the sample, the final estimate of the sample size was about 3600 students ($500 \times 6 + 600$) with a probability of attrition of 20%.

3.2. Data Preprocessing

A total of 3600 students were invited to participate in completing a self-report questionnaire from January to March 2017. Using the visual analysis and STDEV.P method, 2800 questionnaires were entered into the analysis stage by removing immaterial data, missing data, and indifferent people. The normality of data distribution was analyzed based on the skewness and kurtosis of questions and variables.

3.3. Tools

3.3.1. Family Social Capital Scale

Since there was no standard and valid scale for family social capital, the researchers developed a valid, reliable scale for the measurement and application of this concept through a preliminary, multi-stage study. To make the concept of family social capital applicable, an extensive literature review and expert interviews were performed. After verifying the content validity of items, exploratory factor analysis (EFA) was used to extract the subscales of family social capital. After investigating the internal consistency of items pertaining to each subscale, confirmatory factor analysis (CFA) was used to measure structural validity. Intergroup differences were also used to measure structural validity. The 2 variables of self-rated health and life satisfaction were used to verify the predictive validity of the scale. The subscales extracted via EFA were family cohesion, family interactions, family conflicts, and family monitoring. The fitness indicators of the measurement model were satisfactory (chi-square mean/degree of freedom (CMIN/DF) = 3.414, root mean square error of approximation (RMSEA) = 0.042, goodness-of-fit index (GFI) = 0.939, adjusted goodness-of-fit index (AGFI) = 0.924, and all comparative indicators were above 0.9). Intergroup analysis and correlation analysis supported the validity and predictive capability of the constructed scale. The reliability of the scale was confirmed using internal consistency in a pilot study consisting of 65 participants who were not members of the target group (Cronbach $\alpha = 0.69 - 0.94$).

3.3.2. Social Media Usage Scale

To determine the user or non-user state of participants, they were asked, "are you a social media user?" In this study,

the term “social media” denotes virtual, cell phone, or computer-based social networks popular among Iranian people.

3.4. Statistical Data Analysis Method

The data were analyzed using SPSS version 24 (SPSS Inc, Chicago, IL, USA). The independent 2-sample *t*-test was used to analyze family social capital and its dimensions in the user and non-user groups, as well as to determine gender-based differences in social capital among the users. The Kruskal-Wallis test was used to determine the difference in user numbers among socioeconomic classes. The 1-way analysis of variance (ANOVA) and Games-Howell post hoc test were used to determine differences in family social capital among socioeconomic classes of users.

4. Results

As represented in Table 1, the mean age of the participants was 15.15 (1.73) years. Females constituted 52.3% of the participants. Most of the participants belonged to the under-supplied class (39.2%). In addition, 76.3% of the participants were users of social media, and males (78.1%) had a higher membership rate than females (74.5%).

Table 1. Demographic Attributes of the Participants^a

Variables	Female	Male	Total
Age	15.16 ± 1.74	15.14 ± 1.72	15.15 ± 1.73
Gender	1465 (52.3)	1335 (47.7)	2800 (100)
Socioeconomic status			
Under-supplied	608 (41.5)	490 (36.7)	1098 (39.2)
Moderately supplied	420 (28.7)	380 (28.5)	800 (28.6)
Well-supplied	437 (29.8)	465 (34.8)	902 (32.2)
Membership in social media			
User	1092 (74.5)	1043 (78.1)	2135 (76.3)
Non-user	396 (25.2)	292 (21.9)	661 (23.6)

^a Values are expressed as mean ± SD or No. (%).

According to Table 2, the independent 2-sample *t*-test showed meaningful differences in the mean scores of family cohesion, family interactions, family conflicts, family monitoring, and total family social capital between the user and non-user groups. The equality of variance tests in the 2 groups and upper and lower bounds indicated higher mean scores in all dimensions for the non-user group ($P < 0.001$).

According to Table 3, the independent 2-sample *t*-test showed no difference between the male and female users

Table 2. Comparing Family Social Capital and Its Dimensions in Users and Non-users Using Independent 2-Sample *t*-Test^a

Family Social Capital Dimensions	User	None-user	P Value
Family cohesion	4.02 ± 0.74	4.16 ± 0.73	< 0.001
Family interactions	3.60 ± 0.77	3.74 ± 0.80	< 0.001
Family conflicts	3.56 ± 0.95	3.75 ± 0.95	< 0.001
Family monitoring	4.25 ± 0.82	4.40 ± 0.77	< 0.001
Total family social capital	3.85 ± 0.64	4.01 ± 0.63	< 0.001

^a Values are expressed as mean ± SD.

in the mean values of the variables of family cohesion and family interactions ($P > 0.05$). However, there were differences between the male and female users in the variables of family conflicts and family monitoring ($P < 0.05$). The equality of variance tests and upper and lower bounds indicated a higher mean value for the female users. The overall social capital was different between the male and female users ($P < 0.05$), and its mean value was higher in female users.

Table 3. Comparing Family Social Capital and Its Dimensions Among Gender Groups Using Independent 2-Sample *t*-Test^a

Family Social Capital Dimensions	Female	Male	P Value
Family cohesion	3.99 ± 0.80	4.04 ± 0.68	0.124
Family interactions	3.62 ± 0.81	3.57 ± 0.72	0.109
Family conflicts	3.60 ± 0.94	3.51 ± 0.96	0.025
Family monitoring	4.41 ± 0.75	4.08 ± 0.86	0.000
Total family social capital	3.91 ± 0.65	3.80 ± 0.62	0.000

^a Values are expressed as mean ± SD.

The percentages of the users belonging to the low-supplied, moderately supplied, and well-supplied classes were 35, 31, and 34, respectively. The Kruskal-Wallis test indicated no statistically meaningful difference in user frequency among the 3 socioeconomic classes ($P > 0.05$).

The difference in family social capital among users from the 3 socioeconomic classes was examined using 1-way ANOVA. The *P* values for the variables of family cohesion, family monitoring, and overall social capital were less than 0.05, indicating differences in the mean scores of these variables among the 3 socioeconomic groups.

Post hoc tests were used to determine the quality of the difference. However, before that, the equality of variance tests was performed, and the Levene test indicated that the "sig" value was less than 0.05 for all 3 mentioned variables.

Thus, the condition for equality of variances was not met. Therefore, the Games-Howell post hoc test was used.

At the confidence level of 95%, the mean value of the family cohesion variable was different between the moderately supplied and under-supplied classes ($P = 0.017$). According to the upper and lower bounds, the mean scores for family cohesion were higher in the moderately supplied class than in the under-supplied class. At the confidence level of 95%, the mean value of the family cohesion variable was different between the under-supplied and well-supplied classes ($P = 0.027$). According to the upper and lower bounds, the mean scores for family cohesion were higher in the well-supplied class. However, there were no differences in the mean scores of family cohesion between the moderately supplied and well-supplied classes. At the confidence level of 95%, the mean value of the family monitoring variable was different between the under-supplied and well-supplied classes ($P = 0.010$); it was higher in the well-supplied class. At the confidence level of 95%, the mean value of the overall family social capital variable was different between the under-supplied and well-supplied classes ($P = 0.032$); it was higher in the well-supplied class (Table 4).

5. Discussion

The results indicated that more than 76% of the participants were users of social media. This is above the overall percentage of cell phone ownership in Asian adolescents, which is 62% (21).

It has been shown that there are gender-based differences in usage amount, usage type, usage reasons, and the type and amount of vulnerability in adolescents' use of social media (22-24). Contrary to some studies reporting that females are more active in social media (24), the findings of this study indicated that males had a higher membership rate in social media. This is in line with the findings of Xin et al., indicating higher internet use among males than females (22). According to the results of this study, the mean scores for family conflicts and family monitoring were higher in female users. In line with the results of this study, Ahmadi and Khodadad Sakgdehi also showed meaningful gender-based differences in family monitoring over males and females, as females were under stronger family monitoring, and parents showed more sensitivity and concerns in maintaining rule over female children (25).

Khan et al. indicated that motives for using the internet were to some extent determined by the socioeconomic status of users, as well as their position in the social structure (26); however, our study showed no difference in the frequency of adolescent users among

the 3 socioeconomic classes. This can be attributed to accessibility, ease of use, and relatively low costs of these media. After further investigation of users according to their socioeconomic status, the results indicated higher family cohesion and family monitoring in the higher socioeconomic classes. These findings indicate the significance of a family's socioeconomic status regarding the manifestation of some aspects of family social capital. In line with the results of this study, Zhang (27) and Banovcinova et al. (28) have reported higher family cohesion in families with higher socioeconomic levels.

Although some studies suggest that using social media increases the effectiveness of communication between family members and facilitates family monitoring (16, 17, 29), our study indicated higher values for overall family social capital and all dimensions of family social capital in non-user adolescents. In other words, adolescents who did not use these media reported higher family interactions, family cohesion, and family monitoring, as well as fewer family conflicts.

These results are in line with the findings of Nie and Hillygus, reporting that home internet use has strong negative effects on the time spent with family members (13). Lee's study also showed a negative relationship between the time dedicated to online relationships and the time dedicated to parents (11). An online survey by Vitak et al. indicated that due to the shift of social media from enhancing close ties toward forming relationships with strangers and establishing various groups, people currently use social media primarily for establishing weak ties, which means a low bonding social capital for the users of social media (30). Studies conducted by Wang et al. (31), Yan et al. (14), and Snyder et al. (32) also reported a negative relationship between the use of social media and the components of family social capital.

Chen et al. argue that these inconsistent findings are due to the exclusion of the usage type, stating that users must be divided into 2 active and passive groups (33). Therefore, in addition to dividing the participants into 2 groups of users and non-users, investigating the usage patterns of the users is also necessary.

5.1. Limitations

This study only investigated whether the adolescents were users or non-users of social media. Since the use of social media includes systematic patterns in which a specific medium can be used for different purposes, as well as different media can be used for identical purposes, we recommend that future studies take this matter into account.

Table 4. Comparing Family Social Capital and Its Dimensions Among the Socioeconomic Groups of the Study Using 1-Way Analysis of Variance^a

Variables	Under-supplied	Moderately Supplied	Well-supplied	F	Significance of Difference Between Groups
Family cohesion	4.00 ± 0.79	4.09 ± 0.71	4.08 ± 0.71	4.64 ^b	1 ^c -2 ^d ; 2, 1-3 ^e ; 3
Family interactions	3.60 ± 0.80	3.64 ± 0.78	3.66 ± 0.76	1.52	-
Family conflicts	3.59 ± 0.97	3.60 ± 0.95	3.61 ± 0.93	0.11	-
Family monitoring	4.24 ± 0.86	4.27 ± 0.81	4.34 ± 0.75	3.71 ^b	1-3; 3
Total family social capital	3.86 ± 0.67	3.90 ± 0.62	3.92 ± 0.62	2.70 ^b	1-3; 3

^a Values are expressed as mean ± SD unless otherwise indicated.

^b $p < 0.05$.

^c Under-supplied group.

^d Moderately supplied group.

^e Well-supplied group.

5.2. Conclusions

A great percentage of adolescents were users of social media, and all dimensions of family social capital were better in non-user adolescents. Considering the increasing trend of social media usage among adolescents, it is important to develop interventions, especially media literacy education, to reduce usage time and protect adolescents against the potentially destructive effects of these media.

Acknowledgments

Special thanks to the sincere contribution of adolescents who participated in this study.

Footnotes

Authors' Contribution: N. G. designed the study, collected the data, performed the statistical analysis, interpreted them, and drafted the manuscript. A. A. E. designed the study, performed the statistical analysis, interpreted them, drafted the manuscript, and supervised the final version of the manuscript. All authors read and approved the final manuscript.

Conflict of Interests: The authors have declared that no competing interests exist.

Ethical Approval: The study was approved by the Ethics Committee and Research Deputy of Isfahan University of Medical Sciences (code: IR.MUI.REC.1395.3.668).

Funding/Support: This study was supported by grant no. 395668 from the Vice-Chancellery of Research and Technology at Isfahan University of Medical Sciences, Isfahan, Iran, and was extracted from the Ph.D. dissertation of the first author.

Informed Consent: Participants were aware of the voluntary nature of their participation by completing the consent form.

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