

■ Original article

The role of social capital in subjective well-being of Iranian adolescents in Birjand, 2015

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Abstract

Background and Purpose: Subjective well-being plays a crucial role in human life given the positive impacts it has on mental and physical health, longevity, and quality of life. Therefore, it is important to evaluate and promote subjective well-being and its relevant factors. This study aimed to assess the role of social capital in subjective well-being among Iranian adolescents.

Methods: This cross-sectional, analytical study was performed on high school students (10th to 12th grades) residing in Birjand city, center of the Southern Khorasan Province, Iran, in 2015. The main inclusion criteria were being a student of public high schools and living with parents. Using multi-stage cluster sampling, 400 students were selected. A demographic characteristics form, the Social Capital Index, and the Adolescent Subjective Well-Being Scale were employed for data collection. The data were analyzed using descriptive statistics (including mean, frequency, and standard deviation) and inferential statistics (e.g., Pearson and Spearman's coefficients, step-wise multiple regression, Mann-Whitney U test, and Kruskal-Wallis test).

Results: The participants reported a high level of social capital (89.06±12.87) and a moderate level of subjective well-being (29.82±6.91). There was a significant positive correlation between social capital and subjective well-being scores ($r=0.5$, $P<0.001$). Furthermore, 32% of the variance of subjective well-being was explained by social capital and gender (girls; $R^2=0.32$, $F=95.24$, $P<0.001$).

Conclusion: Improving social capital among social institutions such as family, school, and other youth-related networks can result in enhanced subjective well-being in adolescents.

Keywords: Adolescence, Social capital, Subjective well-being

Introduction

Adolescence is the period of transition from childhood to adulthood when individuals undergo changes in emotions and personality (1, 2). Generally, experts consider the age of 11-20 years as adolescence (2). This stage is associated with physiological changes, mood and affect instability, anxiety about future, and fantasy thinking, which may pave the way for emotional, behavioral, and cognitive problems (3, 4). These problems can lead

to emotional disorders such as emotional instability and negative emotions. They may also impede the process of social growth and academic achievement and negatively influence mental health (5).

Theorists have emphasized the positive effects of human well-being on mental health (6, 7). Overall, subjective well-being (SWB) is defined as a positive appraisal of life and the equilibrium between positive and negative affects (8, 9). SWB plays a

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key role in human life—given its positive impact on mental and physical health, longevity, quality of life (10, 11), as well as level of happiness (12).

Being in a period between childhood and adulthood and encountered with puberty crisis, adolescents may experience an ambiguous and complex state that can severely jeopardize their SWB (3, 13). A low level of SWB has been found among Iranian adolescents (14, 15). Given the aforementioned issues, it is important to promote adolescents' SWB and its contributing factors, and social capital is a particularly important factor in this regard.

Social capital has been defined as the available sources in a family that can facilitate cognitive and social development in children and adolescents (16). Researchers believe that parents can transfer social capital to their children through time and effort dedicated to them, effective communication with them, and guidance and response to their behaviors, leading to child's mental and social growth (17).

In western countries, a positive relationship was found between social capital and different facets of physical and mental health in adolescents including quality of life (18, 19).

Several studies have focused on SWB in adults; however, few studies have investigated adolescence SWB and/or strategies to enhance it (20, 21). On the other hand, databases show that the role that social capital plays in shaping SWB has not been studied in Iran. This study aimed to investigate the role of social capital in SWB of Iranian adolescents in Birjand, 2015.

Materials and Methods

This cross-sectional, analytical study was conducted on high school students (10th to 12th grades) in Birjand city, center of the Southern Khorasan Province, Iran, 2015. No relevant study estimating the required sample size was found; therefore, a pilot study was conducted. To this end, the SWB Scale was distributed among 40 students (20 girls and 20 boys) whereby the standard sample size was calculated to be 400 ($\delta=12.2$, $\alpha=0.05$, $d=0.1\delta$).

The students were selected using multi-stage

cluster sampling. To this end, after dividing the city into four geographical regions (i.e., North, South, East, and West), one girls' and one boys' high school were selected randomly from each cluster by using random digital table. Since there was an almost equal statistical distribution of boy and girl students in all grades, the participants were chosen randomly according to the sample size from each grade. The inclusion criteria were a) willingness and informed consent, b) being in the 10th, 11th, and 12th grades of high school, c) students of public high schools (except for exceptional talents and exemplary public schools), d) students whose parents were alive, and e) living with parents.

The demographic characteristics form included age, gender, grade at school, as well as parents' educational level, and income. Social Capital Index developed by Beilmann et al. (2014) was used to evaluate the participants' social capital. It consists of 26 items concerning various dimensions of social capital: 10 items rated on a 4-point Likert scale (1=never and 4=always) about parental acceptance-rejection (e.g., Mother makes it easy to confide her), 3 items rated on a 5-point Likert scale (1=never and 5=always) measuring intimacy with parents (e.g., How often do you talk to your father/mother about things that you do not want others to know?), 3 questions rated on a 5-point Likert scale (1=never and 5=always) measuring admiration by parents (e.g., How often do you feel that your father/mother admires you?), and 10 items rated using a 5-point Likert scale (1=completely disagree and 5=completely agree) assessing peer acceptance (e.g., My friends often spend their free time with me).

The total score of social capital was calculated as the sum of items, ranging from 26 to 121 (22). In fact, this scale was developed considering items from other scales including Mother-Father-Peer, Quality of Relationship with Parents, and Peer Acceptance. All these instruments showed satisfactory reliability coefficients in the previous studies (23-25).

This scale was translated to Persian using forward-backward procedure. Content validity of the Persian version of the Social Capital Index was confirmed by ten faculty members of Birjand University of

Medical Sciences. Content validity index (CVI) of items of the Social Capital Index ranged from 0.8 to 1, indicating satisfactory content validity. Reliability of this scale was investigated by using the test-retest procedure. To investigate the reliability of this scale, it was given to 30 adolescent students at an interval of two weeks. The test-retest yielded a Pearson's r of 0.91, indicating a good reliability. Herein, the researchers divided the total score of Social Capital Index into three levels of low (26-57), moderate (58-90), and high (91-121). Finally, Cronbach's alpha for the total scale was 0.83 and Cronbach's alpha for its domains ranged from 0.66 to 0.9.

The adolescent SWB scale (ASWBS) was used to assess SWB of the participants. This scale consists of 10 items concerning various dimensions of SWB as follows: 4 items about affect (e.g., I'm alone and lonely), 3 items on self-recognition (e.g., I forget more often than before), and 3 items about adaptation to life (e.g., I live in harmony with my family and people around me). The participants responded to the items on a 4-point Likert scale (1=hardly and 4=a lot).

The total score of SWB was expressed by calculating the sum of the items, ranging from 10 to 40. It is noteworthy that reliability of this scale was confirmed in previous studies and a Cronbach's alpha of 0.71 was reported for the overall scale (26).

Since this scale was not applied in previous studies in Iran, validity and reliability of the Social Capital Index were examined in this study. CVI for all the scale items ranged between 0.81 and 1. The SWB score was divided into three levels of low (10 to 20), moderate (21 to 30), and high (31 to 40). Considering internal consistency, statistical analysis indicated Cronbach's alpha of 0.87 for the Persian version of the adolescent SWB scale. Moreover, Cronbach's alpha for the domains of this scale ranged from 0.67 to 0.84.

Upon receiving the required permissions from the Research Committee of BUMS (code: 53/93), Education Administration of Birjand city, and relevant officials of high schools, the researchers visited the high schools to distribute the questionnaires. Before collecting the data, the students were informed of the study's purpose and nature. Furthermore, the voluntary nature of

participation was explained to them. The researchers insured the participants of confidentiality of their responses and their identity.

The obtained data were analyzed in SPSS version 16, using descriptive statistics (including mean, frequency, and standard deviation) and inferential statistics including Pearson-product moment and Spearman's coefficients, step-wise multiple regression, independent t-test, Mann-Whitney U test, one-way ANOVA, and Kruskal-Wallis test. Kolmogorov-Smirnov test was performed to test the normal distribution of the data. P -value less than 0.05 was considered statistically significant.

Results

In this study, 200 girls and 200 boys were recruited. The mean age of the participants was 16.99 ± 0.81 years. The mean ages of the boys and girls were 17 ± 0.81 years and 16.99 ± 0.81 years, respectively ($P=0.88$). Other main demographic characteristics of the participants are illustrated in Table 1.

The majority of the participants (52.3%) reported a high level of social capital. In terms of SWB, 44.8% of the participants had moderate levels of SWB. The total scores of social capital and its domains are exhibited in Table 2, and the total scores of SWB and its domains are displayed in table 3.

The scores of social capital and SWB ranged from 46 to 115 and 11 to 40, respectively.

As shown in Table 2, the participants whose fathers had a high school diploma reported higher social capital scores than students whose fathers had a Bachelor's degree or higher. Also, the adolescents whose mothers had a high school diploma reported a significantly higher score of parental accepting than those whose mothers had a Bachelor's degree or higher.

As shown in Table 3, the boys obtained a significantly higher score in SWB than the girls ($P=0.00$). In addition, the boys showed a higher score on all SWB dimensions than the girls. Higher scores concerning adaptation to life were attained by those whose mothers had a high school diploma than all the other educational levels. Also, those with higher parental income levels reported a

Table 1. Demographic characteristics of adolescents (Birjand, Iran, 2015)

| Variable | | Boys (n=200) Frequency (%) | Girls (n=200) Frequency (%) | Total (n=400) Frequency (%) | P-value |
|----------------------------|-----------------------------|-------------------------------|--------------------------------|--------------------------------|---------|
| Grade of high school | 10 th | 66(33%) | 66(33%) | 132(33%) | 0.93* |
| | 11 th | 65(32.5%) | 68(34%) | 133(33.25%) | |
| | 12 th | 69(34.5%) | 66(33%) | 135 (33.75%) | |
| Fathers' educational level | Below high school diploma | 30(15%) | 46(23%) | 76(19%) | 0.017* |
| | High school diploma | 68(34%) | 85(42.5%) | 153(38.25%) | |
| | Associate degree | 48(24%) | 29(14.5%) | 77(19.25%) | |
| | Bachelor's degree or higher | 54(27%) | 40(20%) | 94(23.5%) | |
| Mothers' educational level | Below high school diploma | 53(26.5%) | 50(25%) | 103(25.75%) | 0.015* |
| | High school diploma | 61(30.5%) | 84(42%) | 145(36.25%) | |
| | Associate's degree | 39(19.5%) | 20.5%))41 | 80(20 %) | |
| | Bachelor's degree or higher | 47(23.5%) | 25(12.5%) | 72(18%) | |
| Parental income level | Low | 27(13.5%) | 69(34.5%) | 96(24%) | 0.00* |
| | Moderate | 152(76%) | 104(52%) | 256(64%) | |
| | High | 21(10.5%) | 27(13.5%) | 48(12%) | |

*analyzed by Chi-square test

Table 2. The mean scores of social capital and its domains with respect to demographic characteristics of adolescents (Birjand, Iran, 2015)

| Variable | | Social capital (mean±SD) | Parental acceptance- rejection (mean±SD) | Intimacy with parents (mean±SD) | Admiration by parents (mean±SD) | Peer acceptance (mean±SD) |
|----------------------------|-----------------------------|-----------------------------|---|------------------------------------|------------------------------------|------------------------------|
| Total score | | 89.06±12.87 | 33.56±5.89 | 8.78±3.10 | 10.41±3.04 | 36.3±6.07 |
| Gender | Girl | 89.15±12.28 | 33.35±5.43 | 8.73±3.15 | 10.26±2.78 | 36.8±5.87 |
| | Boy | 88.97±13.47 | 33.77±6.32 | 8.83±3.06 | 10.57±3.28 | 35.8±6.24 |
| | P-value | 0.9 [†] | 0.1 [†] | 0.67 [†] | 0.9 [†] | 0.13 [†] |
| Grade of high school | 10 th | 88.31±13.69 | 33.4±5.76 | 8.63±3.15 | 10.29±3.1 | 35.96±6.67 |
| | 11 th | 88.6±13.32 | 33.16±6.5 | 8.62±3.14 | 10.18±3.2 | 36.63±5.62 |
| | 12 th | 90.23±11.55 | 34.09±5.37 | 9.07±3.02 | 10.76±2.81 | 36.3±6.07 |
| | P-value | 0.61 [‡] | 0.73 [‡] | 0.41 [‡] | 0.3 [‡] | 0.93 [‡] |
| Fathers' educational level | Below high school diploma | 89.8±13.16 | 34.11±5.33 | 8.78±3.25 | 10.47±3.04 | 36.42±6.21 |
| | High school diploma | 91.27±11.72 | 34.37±5.38 | 9.15±3.05 | 10.83±2.73 | 36.91±5.83 |
| | Associate's degree | 87.44±12.96 | 32.46±6.51 | 8.66±2.98 | 10.01±3.15 | 36.29±5.58 |
| | Bachelor's degree or higher | 86.18±13.81 | 32.68±6.39 | 8.26±3.13 | 10.02±3.38 | 35.21±6.63 |
| | P-value | 0.017 [‡] | 0.1 [‡] | 0.16 [‡] | 0.23 [‡] | 0.24 [‡] |
| Mothers' educational level | Below high school diploma | 89.35±13.15 | 33.47±6.27 | 8.52±3.05 | 10.17±3.16 | 37.18±6.06 |
| | High school diploma | 90.82±11.02 | 34.53±4.91 | 9.08±3.08 | 10.79±2.58 | 36.4±5.73 |
| | Associate's degree | 86.12±12.52 | 32.48±5.53 | 8.55±3.06 | 9.88±2.91 | 35.2±6.3 |
| | Bachelor's degree or higher | 88.34±15.67 | 32.91±7.21 | 8.77±3.27 | 10.59±3.68 | 36.05±6.39 |
| | P-value | 0.074 [‡] | 0.04 [‡] | 0.53 [‡] | 0.16 [‡] | 0.25 [‡] |
| Parents' income level | Low | 89.41±12.49 | 32.77±6.13 | 8.72±3.13 | 9.89±2.95 | 37.02±5.95 |
| | Moderate | 88.7±13.09 | 33.64±5.84 | 8.73±3.03 | 10.57±3.14 | 35.75±6.16 |
| | High | 92.22±12.29 | 34.7±5.52 | 9.12±3.46 | 10.62±2.61 | 37.77±5.48 |
| | P-value | 0.24 [‡] | 0.08 [‡] | 0.71 [‡] | 0.08 [‡] | 0.56 [‡] |

†: analyzed by Mann-Whitney U test

‡: analyzed by Kruskal-Wallis test

Table 3. The mean scores of subjective well-being and its domains with respect to demographic characteristics of adolescents (Birjand, Iran, 2015)

| Variable | | Subjective well-being (mean±SD) | Affect (mean±SD) | Self-recognition (mean±SD) | Adaptation to life (mean±SD) |
|----------------------------|-----------------------------|------------------------------------|---------------------|-------------------------------|---------------------------------|
| Total score | | 29.82±6.91 | 11.96±3.28 | 8.73±2.33 | 9.13±2.46 |
| Gender | Girl | 28.38±6.95 | 11.21±3.31 | 8.34±2.34 | 8.83±2.35 |
| | Boy | 31.27±6.57 | 12.7±3.08 | 9.13±2.26 | 9.43±2.54 |
| | <i>P-value</i> | <0.001 [†] | <0.001 [†] | 0.002 [†] | <0.001 [†] |
| Grade of high school | 10 th | 30.01±6.93 | 11.97±3.33 | 8.8±2.22 | 9.23±2.45 |
| | 11 th | 29.36±7.17 | 11.85±3.41 | 8.58±2.39 | 8.91±2.46 |
| | 12 th | 30.1±6.64 | 12.04±3.12 | 8.82±2.4 | 9.23±2.48 |
| | <i>P-value</i> | 0.67 [‡] | 0.93 [‡] | 0.63 [‡] | 0.41 [‡] |
| Fathers' educational level | Below high school diploma | 30.43±7.03 | 12.19±3.37 | 8.94±2.32 | 9.28±2.43 |
| | High school diploma | 30.55±6.4 | 12.2±3.03 | 8.95±2.32 | 9.39±2.31 |
| | Associate's degree | 28.72±7.29 | 11.55±3.42 | 8.41±2.34 | 8.75±2.01 |
| | Bachelor's degree or higher | 29.05±7.19 | 11.69±3.47 | 8.47±2.49 | 8.88±2.66 |
| | <i>P-value</i> | 0.18 [‡] | 0.34 [‡] | 0.19 [‡] | 0.26 [‡] |
| Mothers' educational level | Below high school diploma | 29.49±7.48 | 12.09±3.46 | 8.56±3.36 | 8.8±2.65 |
| | High school diploma | 30.53±6.32 | 12.03±3.03 | 8.95±2.34 | 9.55±2.22 |
| | Associate's degree | 28.65±6.65 | 11.53±3.4 | 8.5±2.22 | 8.61±2.31 |
| | Bachelor's degree or higher | 30.22±7.39 | 12.08±3.39 | 8.88±2.42 | 9.31±2.66 |
| | <i>P-value</i> | 0.20 [‡] | 0.58 [‡] | 0.44 [‡] | 0.01 [‡] |
| Parents' income level | Low | 29.36±6.47 | 11.82±3.13 | 8.57±2.18 | 8.96±2.3 |
| | Moderate | 29.67±7.13 | 11.89±3.39 | 8.64±2.4 | 9.14±2.51 |
| | High | 31.56±6.4 | 12.6±2.9 | 9.53±2.15 | 9.37±2.54 |
| | <i>P-value</i> | 0.15 [‡] | 0.4 [‡] | 0.03 [‡] | 0.42 [‡] |

[†]: analyzed by Mann-Whitney U test

[‡]: analyzed by Kruskal-Wallis test

significantly higher score of self-recognition.

As shown in Table 4, a significant positive correlation was noted between social capital and SWB ($r=0.5$, $P=0.00$). Moreover, there were significant positive correlations between all social capital and SWB dimensions.

Finally, a stepwise multiple regression was run to determine the extent to which the demographic and

social capital variables can explain SWB scores. The social capital variable was entered in the first step. Next, the gender variable (being girl) was entered. Overall, 32% of the SWB variance was explained by these two factors ($R^2=0.32$, $F=95.24$, $P<0.001$). Statistical analysis showed that social capital ($B=0.28$, $T=12.83$) and gender variables (being girl; $B=-2.93$, $T=-5.15$) significantly predicted the

Table 4. Correlation between social capital and subjective well-being and their dimensions of adolescents (Birjand, Iran, 2015)

| Variable | Subjective well-being | Affect | Self-recognition | Adaptation to life |
|-------------------------------|-----------------------|----------------------|----------------------|----------------------|
| Social capital | $r=0.50$, $P<0.001$ | $r=0.37$, $P<0.001$ | $r=0.41$, $P<0.001$ | $r=0.52$, $P<0.001$ |
| Parental acceptance-rejection | $r=0.53$, $P<0.001$ | $r=0.41$, $P<0.001$ | $r=0.43$, $P<0.001$ | $r=0.55$, $P<0.001$ |
| Intimacy with parents | $r=0.31$, $P<0.001$ | $r=0.23$, $P<0.001$ | $r=0.21$, $P<0.001$ | $r=0.38$, $P<0.001$ |
| Admiration by parents | $r=0.43$, $P<0.001$ | $r=0.32$, $P<0.001$ | $r=0.33$, $P<0.001$ | $r=0.48$, $P<0.001$ |
| Peer acceptance | $r=0.15$, $P=0.002$ | $r=0.11$, $P=0.01$ | $r=0.16$, $P=0.001$ | $r=0.12$, $P=0.01$ |

participants' SWB.

Discussion

The majority of the adolescents reported a high level of social capital. This finding was in contrast with a study conducted on 363 Brazilian adolescents, in which the participants reported a moderate level of social capital (27). This difference can be partly attributed to the different social and cultural contexts in which adolescents grow up. On the other hand, social capital is related to family structure to a large extent. It is believed that children living with both parents usually report higher levels of social capital than those who live with a single parent or with a stepfather or stepmother (28). It was natural to expect a high level of social capital in the current study since the participants were those who lived with their parents. Moreover, researchers believe that factors such as racial/ethnic differences are key to shaping social capital (12).

Consistent with two studies conducted on a sample of Iranian nursing and midwifery students (15) and a sample of students of Turkish universities (29), in this study, the majority of the participants displayed a moderate level of SWB. On the contrary, a high level of SWB was reported by Polish adolescents (13). This difference can be explained considering factors such as individual characteristics, mental and physical health status, environmental conditions, participation in religious activities, and satisfaction of desires that are enumerated as predictors of SWB by researchers (15). In addition, it has been suggested that the level of SWB is related to social environment (12).

The adolescents whose fathers had a high school diploma reported a higher level of social capital than participants whose fathers had academic education. Similarly, the adolescents whose mother had a high school diploma obtained higher scores of parental acceptance. In fact, social capital is a set of factors and relationships that exist in interconnected groups such as family.

Social capital is affected by the time parents spend with their children, the support they provide, the encouragement they give, and the energy they devote to them (17). Parents' presence at home is a

significant indicator of adolescents' social capital. It is proposed that in Iran, as the education level of parents increases, parents' presence at home and their conversation with offspring decreases (30). It is probable that parents with high school diploma could spend more time communicating with their offspring and provide them with greater assistance, energy, encouragement, and social support because they had more leisure time.

In addition, the number of siblings is proposed as a measure of social capital. It is believed that greater number of siblings is often associated with more parental involvement and increased offspring's social capital (31). In Iran, one expects parents with lower educational level to have a greater number of children, which might lead to a sense of desirable social capital among adolescents living in such families (32).

The boys reported higher scores than girls on the SWB dimensions. This finding is consistent with findings of some other studies (33, 34). The Social Model of Health states that women's health diminishes due to excessive stress and limited access to resources and social services. In Iran, lower levels of mental and physical health are reported for women than men (35).

This study also revealed that adolescents with educated mothers obtained higher scores in adaptation to life dimension. This finding is consistent with a study performed in the USA. In the aforementioned study, the adolescents with educated mothers enjoy higher social class, more assimilation, and greater acculturation with their mothers (33).

Furthermore, adolescents whose parents have higher income obtained a higher mean score on the self-recognition dimension of SWB. This finding was also emphasized in a relatively recent published literature review (36). On the contrary, some authors believe that there is a negative association between family income and children's SWB. They have pointed out that the influence of income is contextual and depends on life situations (37). Nevertheless, adolescents in the current study might have better realized their strengths and weaknesses. Evidently, weaknesses and strengths of each person are dependent on their experiences in various activities such as exercise. Such activities require financial support from family. Therefore, a

higher self-recognition in adolescents with wealthy families is somewhat justified.

Traditionally, an r value of 0.5 is considered to indicate a moderate association (38); thus, a relatively moderate positive correlation was found between social capital and SWB in adolescents. A similar finding was observed in a previous study (39). In a study conducted on immigrants, social capital buffered the effects of negative life events and had a positive, direct relationship with health and mental well-being of people (40).

It is noteworthy that social capital can enhance self-efficacy; thereby, leading individuals to communicate with others more effectively, perform activities more efficiently, and have hope and confidence in stressful situations of life (41-43). Someone with good efficacy can be expected to maintain and improve his/her health and attain a desired level of mental health. On the other hand, some studies support the significant correlation between social capital and optimism. Optimism can help a person link with social groups and individuals in her/his network of relations; thus, s/he may enjoy a high level of social capital (44). This sense of optimism leads to life satisfaction and contributes to better SWB. In this study, 32% of SWB variance was explained by social capital and gender. When designing strategies to improve SWB of adolescents, particular attention should be paid to girls.

Having a large sample size is the strength of this study. However, the current study was conducted merely in public high school in Birjand city and the results should be generalized cautiously. We carried out this study on adolescents who studied in public high schools and students whose parents were alive. Future studies could be directed to study adolescent students in other types of schools and other family structures. In addition, other possible variables affecting adolescents' SWB could be examined in future studies.

Conclusion

According the results of this study, there was a significant correlation between social capital and SWB of participants. Efforts directed to improve social capital among social institutions such as

family (e.g., encouraging family members to spend more time together and speaking with each other about their concerns), school (e.g., promoting students' involvement in scientific, socio-cultural, and exercise activities), and other youth-related networks (e.g., establishing social networks based on social trust to promote adolescents interactions) can result in enhanced adolescent SWB.

Conflicts of interest

None declared.

Authors' contributions

SA.V. supervised the study and contributed to study concept and design, as well as analysis, and interpretation of the data. B.Z. helped with drafting the manuscript and data collection.

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