The study of the relationship between social capital and mental disorders in children and adolescents in Kohgiloyeh and Boyer Ahmad province, Iran

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Abstract
Background and aims: Social capital, by encouraging people to collaborate and engage in social interactions, has been considered an effective factor for development of mental disorders. In the present study, we aimed to investigate the relationship between different aspects of social capital and psychiatric disorders in children and adolescents.

Methods: This study was conducted between 2016 and 2017 in Kohgiloyeh and Boyer-Ahmad province, Iran. A total of 1001 children and adolescents aged 6-18 years and their parents were randomly selected using multistage cluster sampling to participate in the study. The data in the present study were compiled using a Persian translated version of the Kiddie-SADS-Present and Lifetime Version (K-SADS-PL) semi-structured questionnaire as well as the Social Capital Questionnaire of Nahapiet and Ghoshal. The raw data were analyzed statistically using Fisher and chi-square tests. The statistical analysis was performed using SPSS 16.0 version.

Results: Our results show that better relationship, cooperation, mutual understanding, and commitment are significantly and inversely correlated to psychiatric disorders among children and adolescents. In this regard we found that the mutual understanding (P=0.008) and relationships (P=0.001) are strongly related to social capital, while other components may have more or less effects.

Conclusion: Our findings show that various aspects of social capital are associated with development of psychiatric disorders in children and adolescents. Some of the social capital components including better relationship, cooperation, mutual understanding, and obligation have significant effects; however, others including networks, values and trust could not exert significant effects on mental health.

Keywords: Social capital, Mental disorders, Health, Children and adolescents

Introduction
Children and adolescents of a community are potentially at risk of different psychiatric disorders and it is important to consider their health, especially mental health (1). Behavioral disorders can be considered as one of the most common and debilitating disorders that influence all individuals in a community (2). Social, cultural, political and economic changes may affect the lifestyle of societies, which subsequently may affect the physical and mental health of children and adolescents (3). A recent review has shown that the prevalence of psychiatric disorders in children living in large cities in developing countries is 10-20% and this is equal to or greater than the corresponding rate in developed countries (4). Although there is insufficient data about childhood mental disorders in low- and middle-income countries, World Health Organization (WHO) has reported that about 20% of adolescents and children across the world experience a mental health issue at some stage during their childhood (5). Previous studies conducted on adults in Iran have shown that the prevalence of mental disorders is 11%; however, a limited number of the disorders has been studied in a limited population in these studies (6).

Social capital, or the spiritual dimension of a community, is a historical heritage that, by encouraging people to "collaborate" and "engage" in social interactions, may act as a protective factor and can reduce socioeconomic problems in the community, and contribute to promoting mental health of children and adolescent (7). Some of the dimensions and aspects of social capital are trust, honesty,
The phenomenon, which is measured by the social network density or public trust of individuals, is related to mental health (11,12). Since 19th century, this phenomenon and its role in health has been considered by sociologists such as Durkheim, and it has been speculated that the suicide rates and social cohesion are inversely correlated (13). A limited number of studies has been conducted on the prevalence of psychiatric disorders in children and adolescent and its relationship with different variables in Iran. Besides that, the results of these studies are typically only based on parents’ assessment criteria, non-standard methods, small sample size or wide confidence intervals and often based on available samples. So far, no study has been conducted to investigate prevalence of psychiatric disorders in children and adolescents in Kohgiloyeh and Boyer-Ahmad.

Finally, because some studies have shown that there might be some relationship between mental disorders and social capital, and also there is not enough data on the prevalence of mental disorders in Kohgiloyeh and Boyer-Ahmad, in the present study we aimed to assess the relationship between social capital and psychiatric disorders in children and adolescents in this province in Iran.

**Materials and Methods**

**Study design and sampling**

This study is an example of well-designed provincial study in Iran. Because there are a limited number of studies conducted on the mental health status in Iran and its relationship with different factors, in the present study we aimed to examine the relationship between social capital components and mental disorders among children and adolescents. To this end, this cross-sectional study was conducted between 2016 and 2017 in Kohgiloyeh and Boyer-Ahmad province, Iran. Kohgiloyeh and Boyer-Ahmad is a province populated with people of different languages and religions. Therefore, it will be of interest to consider the effects of social capital components on the mental health of children and adolescents in the province. Using multistage cluster sampling 1001 children and adolescents aged 6 to 18 years and their parents were randomly selected to participate in this study. In addition to the main city, the rural population was also randomly selected (using cluster sampling).

**Tools and data collection**

The data in the present study were compiled using a Persian translated version of the Kiddie-SADS-Present and Lifetime Version (K-SADS-PL) semi-structured questionnaire as well as the Social Capital Questionnaire of Nahapiet and Ghoshal. The K-SADS-PL questionnaire was designed to evaluate the current and previous episodes of mental illness in children and adolescents based on DSM-III-R and DSM-IV. The K-SADS-PL questionnaire was completed through the interview with children and adolescents over 11 years of age or if they were under 11 years, with their parents. The clinical psychologists who had already trained performed the interviews. It should be mentioned that the validity and reliability of the Persian version of K-SADS-PL questionnaire have been assessed and approved by Ghanizadeh et al. The test-retest reliability and inter-rater reliability of this questionnaire were reported to be 0.81 and 0.69, respectively (14). The basic information which was compiled by the K-SADS-PL questionnaire included major depression, bad temper, mania, hypomania, cyclothymia, bipolar disorder, schizoaffective disorder, schizophrenia, schizophrenia disorder, acute reactive psychosis, panic disorder, transient panic attacks, separation anxiety disorder, child and adolescent avoidance disorder, simple phobia, social phobia, anxiety disorder, generalized anxiety, obsessive-compulsive disorder, attention deficit hyperactivity disorder, conduct disorder, dysfunctional coping behavior, nocturnal enuresis, fecal incontinence, anorexia nervosa, bulimia nervosa, transient tic disorder, chronic motor tic disorder, alcohol abuse, substance abuse, post-traumatic stress disorder, and adaptive disorders. The social capital questionnaire (Nahapiet and Ghoshal, 1998) consists of seven subscales, namely, network, trust, cooperation, mutual understanding, relationships, values and commitment (15). The validity and reliability of this questionnaire is 0.93. As well, Cronbach’s alpha coefficient of 0.91 obtained for all three dimensions of questionnaire that verify its validity (14).

**Data analysis**

The data were analyzed statistically using Fisher’s exact test and chi-square test. Also the data analysis was performed using SPSS 16.0 version and P value less than 0.05 was considered significance level.

**Results**

The subjects in this study were 1001 children and adolescents including 496 boys and 505 girls. Most of the subjects aged 10-14 years (38.6). Also, 51.9% were selected from cities, and the remaining 48.1% of subjects were rural residents. 97.5% of subjects were Lor and 99.8% of them were Moslem and Shia. Demographic data including age, gender, location, ethnicity, and religion of subjects are shown in Table 1. Also, Comparative graph of social capital components and relationship between social capital components and mental disorders
The relation between social capital and mental disorder

Discussion

Many studies indicated that socioeconomic issues could positively or negatively affect mental health of different age groups (16-18). Children and adolescents are mostly affected by social conditions (17,19,20). Various studies have shown that the prevalence of psychiatric disorders in children and adolescent in developed countries are 10% to 20% and in developing countries may be even higher (4). Recently, social capital has been considered as an important risk factor for mental disorders and health inequalities (21). In the present study, we aimed to investigate the different aspects of social capital including networks, relationships, cooperation, values, mutual understanding, trust, and commitment and their relationship with mental disorders in children and adolescents. In line with other studies, our findings (22) suggest that trust and reliance have an important value and should be taken into account. Despite the inconsistency, the results obtained in different studies show that social capital and its components have a prominent effect on incidence of mental disorders. Our results show an association between components of social capital and mental disorders in children and adolescents. In line with other studies our results show that children and adolescents from families that are cohesive had better mental health (27,28). As shown in Table 2, better relationships have the most important impact on mental health of children, and this is in agreement with studies that show a meaningful relationship with family members bridge individuals to wider social resources. Also other important factors such as parental monitoring and family structure could affect the mental health of children and adolescents and further investigations should be conducted in order to examine the relationship of family structure and parenting to social capital (29,30). The idea of family structure impact on development of psychiatric disorders in children and adolescents.

Comparative graph of social capital components in respect to having a mental disorder (with disorder or without disorder). Data are presented as Mean and standard deviation (SD).

Table 1. Demographic characteristics of subjects

<table>
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<th>Variable names and classes</th>
<th>Total</th>
<th>No.</th>
<th>Percent</th>
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<tr>
<td>Gender</td>
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<td></td>
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<tr>
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<td>496</td>
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</tr>
<tr>
<td>Female</td>
<td>505</td>
<td>505</td>
<td>50.4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<tr>
<td>9-6</td>
<td>321</td>
<td>321</td>
<td>32.1</td>
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<tr>
<td>14-10</td>
<td>386</td>
<td>386</td>
<td>38.6</td>
</tr>
<tr>
<td>18-15</td>
<td>294</td>
<td>294</td>
<td>29.4</td>
</tr>
<tr>
<td>No response</td>
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<td>-</td>
<td></td>
</tr>
<tr>
<td>Living area</td>
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</tr>
<tr>
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<td>520</td>
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</tr>
<tr>
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<tr>
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<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fars</td>
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<tr>
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<td>97.4</td>
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<tr>
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<td>0.6</td>
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<tr>
<td>Religion</td>
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<tr>
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<td>Others (Christians, Zoroastrians and other religions)</td>
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<td>-</td>
<td></td>
</tr>
<tr>
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<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>Whole sample</td>
<td>1001</td>
<td>1001</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 1. Comparative graph of social capital components in respect to having a mental disorder (with disorder or without disorder). Data are presented as Mean and standard deviation (SD).
adolescent could be inferred from our results which indicate that better relationship, cooperation, mutual understanding and commitment have significant effect on their mental health. Due to the association between social capital and mental disorders, the level of social capital in a population can be related to mental health. Hence, in a certain area, higher levels of social capital can be considered as a reasonable public health intervention. Furthermore, the social capital can potentially be used by psychiatrists to assess and treat patients. However, there is not enough data to support this approach and further investigations are needed. Both ecological and individual levels of the social capitals can be utilized for clinician’s assessment of a patient. Ecological social capital can help clinicians to realize the capacity of a society to support the patient during the recovery period. As well, the level of individual social capital can indicate the adherence to treatment plans (31).

Conclusion
Our findings suggest that various aspect of social capital have differ effect on mental health of children and adolescents. Also, based on our results, better relationship, cooperation, mutual understanding, and commitment are significantly effective in reducing psychiatric disorders. As a result, social program in school and other communities could be taken into account to improve social capital and subsequently to prevent mental disorder. Also, clinicians could also consider the improvement of social capital as a new approach to treating mental disorder. Moreover, it has been suggested in some studies that social capital interventions can be effective on mental health (32). However, they should be considered with respect to age, gender, religion, etc. in different populations.

Acknowledgments
This study was supported by National Institution for Medical Research Development Islamic Republic of Iran (NIMAD) (Grant No. 940906). Psychiatry and Psychology, Research Center of
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Tehran University of Medical Sciences, and Yasuj University of Medical Sciences, Iran have also contributed to designing and conducting this survey.

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**Visualization:** Ali Khaleghi.

**Writing – original draft:** All of the authors.

**Writing – review & editing:** All of the authors.

**Conflict of Interests**

The authors declare no conflict of interests.

**Ethical Approval**

All participants contributed voluntarily to the study after they provided a consent letter. The national institute for medical research development (NIMAD) approved the study protocol (the ethics code: IR.NIMAD.REC.1395.001).

**References**


