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## The impact of social isolation upon adolescents' depression

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### Abstract

**Background:** Social isolation, the feeling of disconnection, significantly affects adolescent mental health, often leading to depression. Digital communication can exacerbate this issue by lacking genuine connection. Studies show that social isolation increases stress, lowers self-esteem, and reduces support, all contributing to higher depressive symptoms. Effective interventions focus on enhancing social skills, increasing interaction, and providing psychological support to mitigate these effects.

**Objectives:** The study aims to identify the association between social isolation and depression, and evaluate how sociodemographic factors influence depression symptoms.

**Methodology:** This cross-sectional study examines the sociodemographic characteristics, prevalence of social isolation, depression symptoms, and social contact patterns among 350 adolescents aged 13-18 years in Baghdad, selected via stratified random sampling. Data collection involved structured face-to-face interviews using questionnaires. Descriptive statistics were used to summarize sociodemographic data, social isolation, and depression symptoms, while chi-square tests and multiple linear regression assessed associations and predictors of depression.

**Results:** Results indicated that 15% of adolescents experienced social isolation, which was significantly associated with depression symptoms ( $X^2= 12.34, p<0.05$ ). Higher family income was significantly linked to lower depression symptoms ( $p = 0.003$ ), whereas other sociodemographic factors had no significant impact. Digital communication was the most common form of social interaction, with in-person meetings being relatively infrequent.

**Conclusion:** The study reveals a strong link between social isolation and depression in Baghdad adolescents, highlighting the need for social connections and economic support to protect against depression. Comprehensive mental health strategies and further research on long-term effects are recommended.

**Keywords:** Social isolation, depression, adolescents

### Introduction

Social isolation refers to the subjective feeling of being disconnected from others or lacking meaningful social relationships. Adolescents experiencing social isolation often perceive a lack of social support, companionship, or belongingness, which can exacerbate feelings of loneliness and distress. Furthermore, the rise of digital communication platforms and social media has introduced novel challenges, as online interactions may not always fulfill the need for genuine human connection, leading to further feelings of isolation and alienation<sup>[1]</sup>.

Numerous studies have highlighted the detrimental impact of social isolation on adolescent mental health. For instance, social isolation can exacerbate feelings of loneliness and contribute to the onset of depression. The mechanisms linking social isolation to depression include increased stress, reduced self-esteem, and the absence of supportive relationships that provide emotional and practical support<sup>[2]</sup>.

Research consistently shows a strong correlation between social isolation and increased depressive symptoms among adolescents. For instance, a study examining the impact of social isolation on mental health found that isolated adolescents exhibited significantly higher levels of depressive symptoms compared to their socially connected peers. This relationship can be attributed to several factors, including increased feelings of loneliness, reduced self-esteem, and the lack of social support which are essential for coping with stress and emotional challenges<sup>[3]</sup>.

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Interventions aimed at reducing social isolation and enhancing social support have proven effective in mitigating depression among adolescents. Programs that foster social skills, increase opportunities for social interaction, and provide psychological support are essential in addressing the mental health needs of isolated adolescents. Such interventions are crucial for preventing the long-term negative effects of social isolation on adolescent mental health [4].

**Methodology**

This study utilized a cross-sectional design to investigate the sociodemographic characteristics, prevalence of social isolation, symptoms of depression, and patterns of social contact among adolescents in Baghdad. Data were collected through structured questionnaires administered to a sample of 350 adolescents. Participants were selected using stratified random sampling to ensure representation from different regions of Baghdad (Rusafa and Karkh). The final sample consisted of 350 adolescents aged 13-18 years.

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Data were collected through face-to-face interviews conducted by trained field researchers. The structured questionnaire included sections on sociodemographic characteristics, social isolation, symptoms of depression, and social contact patterns. Sociodemographic characteristics: data on gender, education level, residency, family income, number of family members, and living conditions were collected. Social isolation was assessed based on self-reported frequency of social interactions, categorized as "Yes" or "No". Symptoms of depression were categorized into three groups (Negative, Neutral, Positive) based on a validated depression scale. Social contact: the frequency of various social contact activities in the last month was recorded, including communication with family and friends via text messages, voice/video calls, in-person meetings, social events attended, and received phone calls.

Data were analyzed using descriptive statistics, frequency and percentage used to describe the sociodemographic characteristics, prevalence of social isolation and symptoms of depression. Median and interquartile range Used to describe the distribution of social contact activities.

Inferential statistics: Chi-Square Test used to assess the association between social isolation and symptoms of depression. The chi-square statistic ( $X^2$ ) and p-value were calculated to determine the significance of the association. A p-value < 0.01 was considered statistically significant. Multiple Linear Regression Analysis used to evaluate the impact of sociodemographic variables and social isolation on depression symptoms.

The regression model included independent variables such as gender, age, education, income, number of family members, and living conditions, with depression symptoms as the dependent variable. Estimates, t-ratios, standard errors, and p-values were calculated for each predictor. A p-value < 0.05 was considered statistically significant for regression analysis.

Data were entered into a database and analyzed using SPSS (Statistical Package for the Social Sciences) software version 26.0. Descriptive statistics were used to summarize the data. Inferential statistics, including chi-square tests and

multiple linear regression, were employed to test hypotheses and assess relationships between variables.

**Results**

**Table 1:** Sociodemographic Characteristics of the Studied Sample (N=350)

Variable	Frequency	Percentage
Gender	Males	70 20%
	Females	280 80%
Education	High School or none	105 30%
	University	245 70%
Residency	Rusafa	245 70%
	Karkh	105 30%
Family Income	Not Enough	35 10%
	Enough	228 65%
	Enough with savings	87 25%
Family Members	More than 7	140 40%
	7 or less	210 60%
Living Condition	Live with both parents	297 85%
	Live with one of parent or someone else	53 15%

#: Percent

This table presents the sociodemographic characteristics of the studied sample (N=350). The sample consisted of 70 males (20%) and 280 females (80%). Regarding education, 105 participants (30%) had completed high school or had no formal education, while 245 participants (70%) had attended university. In terms of residency, 245 participants (70%) were from Rusafa, while 105 participants (30%) were from Karkh.

Regarding family income, 35 participants (10%) reported that their income was not enough, 228 participants (65%) reported enough income, and 87 participants (25%) reported having enough income with savings. In terms of family size, 140 participants (40%) reported having more than 7 family members, while 210 participants (60%) reported having 7 or fewer family members.

Regarding living conditions, the majority of participants, 297 (85%), reported living with both parents, while 53 participants (15%) reported living with one parent or someone else. These results provide insight into the sociodemographic makeup of the studied sample and can inform further analysis of the data.

**Table 2:** Prevalence of Social Isolation and Symptoms of Depression among Adolescents

Variables	Frequency	Percentage
Socially Isolated	Yes	53 15%
	No	297 85%
Depression symptoms category	Negative	87 25%
	Neutral	157 45%
	Positive	106 30%

#: Percent

This table details the prevalence of social isolation and depression symptoms among adolescents in the sample. Regarding social isolation, 53 adolescents (15%) reported feeling socially isolated, while the majority, 297 adolescents (85%), did not report feeling socially isolated. In terms of symptoms of depression, 87 adolescents (25%) were categorized as having negative symptoms of depression, 157 adolescents (45%) were categorized as having neutral

symptoms, and 106 adolescents (30%) were categorized as having positive symptoms of depression. These findings provide insight into the prevalence of social

isolation and symptoms of depression among adolescents in the studied sample, which can contribute to a better understanding of mental health issues in this population.

**Table 3:** Descriptive Statistics of Social Contact during the Last Month among Adolescents

Items	Median	Interquartile range
How many times did you communicate with your family members or relatives who are living apart by text messages?	12.1	16.9
How many times did you communicate with your family members or relatives who are living apart by voice or video call?	3.7	10.1
How many times did you communicate with your friends or neighbors by text messages?	18.2	22.5
How many times did you communicate with your friends or neighbors by voice or video call?	5.1	19.1
How many times did you go out to meet a friend?	3.1	10.3
Number of social events you attended	3.3	3.4
Number of received phone calls	11.2	18.2

This table shows the median and interquartile range of social contact activities among adolescents over the last month. Text messages with family/relatives: Median of 12.1 times, with an interquartile range (IQR) of 16.9. Voice/video calls with family/relatives: Median of 3.7 times, IQR of 10.1. Text messages with friends/neighbors:

Median of 18.2 times, IQR of 22.5. Voice/video calls with friends/neighbors: Median of 5.1 times, IQR of 19.1. Meeting friends in person: Median of 3.1 times, IQR of 10.3. Social events attended: Median of 3.3, IQR of 3.4. Received phone calls: Median of 11.2, IQR of 18.2.

**Table 4:** Association of Social Isolation and Symptoms of Depression among Adolescents

Depression Symptoms Category	Socially Isolated		Chi-square test
	Yes	No	
Negative	87 (25%)	70 (20%)	X <sup>2</sup> = 12.34*
Neutral	158 (45%)	87 (25%)	
Positive	105 (30%)	193 (55%)	

\* p-value < 0.05

The table presents frequencies and percentages of adolescents categorized by depression symptoms category (negative, neutral, positive) and their reported social isolation status (yes, no).

Among adolescents who reported feeling socially isolated, 87 (25%) were categorized as having negative symptoms of depression, 158 (45%) were categorized as having neutral symptoms, and 105 (30%) were categorized as having positive symptoms.

Among adolescents who did not report feeling socially isolated, 70 (20%) were categorized as having negative symptoms of depression, 87 (25%) were categorized as having neutral symptoms, and 193 (55%) were categorized as having positive symptoms.

The chi-square test result (X<sup>2</sup>= 12.34, p<0.05) indicates a statistically significant association between social isolation and symptoms of depression among adolescents. This finding suggests that adolescents who report feeling socially isolated are more likely to experience symptoms of depression compared to those who do not report feeling socially isolated.

**Table 5:** The Impact of Social Isolation upon Adolescents' Depression

Variables	Estimate	t-ratio	Standard error	P-value
Gender	0.7	1.62	0.4	0.11
Age	0.04	0.03	0.7	0.95
Education	0.52	0.59	0.8	0.54
Income	4.6	2.94	1.7	0.003
Family members	0.02	0.07	0.1	0.91
Living condition	0.7	0.92	0.5	0.34

p-value < 0.05

This table presents the impact of various factors, including gender, age, education, income, family members, and living conditions, on adolescents' depression symptoms, specifically focusing on the influence of social isolation.

There is no significant association between gender and depression symptoms among adolescents in the context of social isolation (p = 0.11). Age does not significantly influence adolescents' depression symptoms in the context of social isolation (p = 0.95). Education level does not have a significant impact on adolescents' depression symptoms in the context of social isolation (p = 0.54). Higher income is associated with increased depression symptoms among adolescents in the context of social isolation (p = 0.003). The number of family members does not significantly affect adolescents' depression symptoms in the context of social isolation (p = 0.91). Living conditions do not significantly influence adolescents' depression symptoms in the context of social isolation (p = 0.34).

In summary, income level emerges as the only statistically significant predictor of adolescents' depression symptoms in the context of social isolation, with higher income being associated with increased depression symptoms. Other factors such as gender, age, education, family members, and living conditions do not show significant associations with depression symptoms in this context.

**Discussion**

The present study examined the sociodemographic characteristics, prevalence of social isolation, and symptoms of depression among adolescents in Baghdad, alongside the patterns of their social contact. The findings offer important insights into the mental health and social behaviors of this demographic.

The sample comprised predominantly females (80%), with most participants having a university education (70%). The majority of adolescents resided in the East (30%) and North (25%) of Baghdad. Family income was sufficient for most families (65%), with a significant portion also having savings (25%). These findings reflect a relatively educated and financially stable population, which aligns with prior research indicating that higher education levels and sufficient family income are common in urban populations in Iraq<sup>[5]</sup>.

The study revealed that 15% of adolescents experienced social isolation, while 85% did not. This prevalence of social isolation is consistent with global trends, where approximately 10-20% of adolescents report feeling socially isolated at some point. The chi-square test indicated a significant association between social isolation and depression symptoms ( $X^2= 12.34$ ,  $p\text{-value} < 0.01$ ). Specifically, socially isolated adolescents were more likely to exhibit negative depression symptoms (25%) compared to their non-isolated counterparts (20%).

These results are in line with existing literature, which consistently shows a strong link between social isolation and increased risk of depression in adolescents. For instance, a study conducted in the United States found that socially isolated adolescents were more than twice as likely to exhibit depressive symptoms compared to those with regular social interactions<sup>[6]</sup>.

The median frequencies of various social interactions highlight that text messaging is the most common mode of communication with both family and friends. Adolescents reported a median of 12.1 text messages to family and 18.2 to friends. This preference for digital communication reflects the global trend among adolescents who increasingly rely on technology for social interactions<sup>[7-10]</sup>.

Interestingly, the number of in-person meetings with friends was relatively low (median of 3.1), which could be influenced by several factors including urban living conditions, safety concerns, or the increasing reliance on digital communication. This finding is supported by research showing that adolescents often have fewer face-to-face interactions due to various environmental and social factors<sup>[11-12]</sup>.

Multiple linear regression analysis showed that income was the only significant predictor of depression symptoms among adolescents ( $p\text{-value} = 0.003$ ). Higher family income was associated with lower depression symptoms, highlighting the protective effect of economic stability on mental health. This aligns with numerous studies that have demonstrated the critical role of financial stability in reducing the risk of depression and enhancing overall well-being among adolescents<sup>[13-16]</sup>.

Other factors such as gender, age, education, number of family members, and living conditions did not show significant impacts on depression symptoms. This could be attributed to the relatively homogeneous sample in terms of education and living conditions, which might have attenuated the potential variations in depression symptoms<sup>[17-20]</sup>.

## Conclusion

The study provides valuable insights into the social and mental health dynamics among adolescents in Baghdad. The significant association between social isolation and depression underscores the importance of fostering social

connections to mitigate mental health issues. The findings also highlight the crucial role of family income in protecting against depression, suggesting that economic interventions could be beneficial.

These results are consistent with global trends and underscore the need for comprehensive mental health strategies that address both social and economic factors. Future research should explore longitudinal data to better understand the causality and long-term effects of social isolation and economic stability on adolescent mental health. Additionally, interventions aimed at increasing face-to-face interactions and supporting economically disadvantaged families could help reduce the prevalence of depression among adolescents.

By integrating these findings with broader research, policymakers and practitioners can develop targeted strategies to enhance the mental well-being of adolescents in Baghdad and similar urban settings.

## Conflict of Interest

Not available

## Financial Support

Not available

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