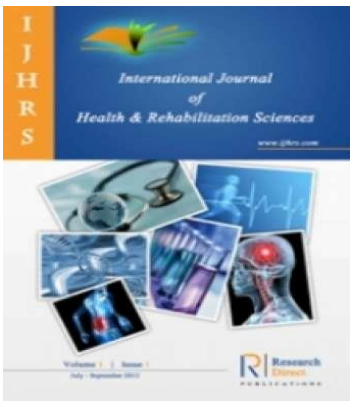

The Protective Role Social Support Plays in Determining Adolescent Mental Health Outcomes

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ABSTRACT

Background: Social support is one of several protective factors important to our understanding of adolescent mental health; family, friends, or teachers often provide critical assistance.

Objectives: The purpose of this cross-sectional pilot study was to investigate how social support (support from family, friends and significant others) was related to mental health outcomes among a sample of Jordanian adolescents.

Methods and Material: Data were collected from public and private schools in Irbid governorate located in Northern Jordan affiliated with the Jordanian Ministry of Education. Multistage cluster sampling was used to recruit students from 8th to 12th grades (N = 112; ages 13-18 years; 54.5% boys). Data were collected using a self-administered online questionnaire in November, 2018. Besides socio-demographics, Multidimensional Scale of Perceived Social Support, Diener's Satisfaction with Life Scale, Rosenberg's Self-Esteem Scale and the Center for Epidemiological Studies Depression Scale for Children (CES-DC) were measured.

Results: Depressive symptomatology was related to lower levels of life satisfaction among both boys and girls. The negative association between self-esteem and depressive symptoms was only significant for girls. In a preliminary multivariate analyses, family support played the most decisive role, and for girls, self-esteem acted as a protective mechanism as well.

Conclusion*:* These findings underscore the important role of effective social support from parents and other family members, who were capable of providing a peaceful and safe environment for youth. Cultural factors may also contribute to the altering roles of different types of social support across gender groups.

Keyword: social support, depression, satisfaction with life, self-esteem, mental health, adolescence, Jordan.

Introduction

Adolescence is a critical stage across the life course when in addition to biological modifications, important psychosocial changes occur that require critical adjustment.[1] These changes include adolescents' social network, particularly with parents and peers: while parental influence is decreasing, the quest for personal autonomy is increasing.[2] Not surprisingly, this is a time period when adolescents begin exploring risk behaviors like substance use and also undergo significant changes in health behaviors, such as dietary habits and physical activity.[3] We should also note here that there are important changes taking place in adolescents' mental health since depression tends to increase, particularly among females during this period of adolescence.[4]

The World Health Organization (WHO) defines mental health as a "state of well-being" during which a person is self-aware that he/she is able to overcome life challenges, and be an effective and productive person in the community – mental health, physical health, and social functioning are interdependent, and connected with personal behaviors.[5] Most mental disorders start by the age of 14 and 20 percent of adolescents experience mental disorders worldwide.[6] Among mental disorders, depression is a particularly common symptom set and a cause of disability worldwide; more than 300 million people are diagnosed with depression.[7]

The prevalence of depression is increasing in adolescence substantially between 13 and 18 years of age.[8] In the United States, the prevalence of depression increased from 8.7 percent in 2005 to 11.3 percent in 2014 among adolescents.[9] In Arab countries, depression is expected to increase, especially in unstable countries in the region like Palestine, Syria, and Iraq. Depression ranks first in behavioral and psychological disorders; mental and behavioral disorders are the main reasons for disability and premature death among Arab adolescents.[10] Several studies conducted in Arab countries, such as Jordan and Saudi Arabia, found an increased prevalence of depressive symptoms among Arab adolescents.[11,12]

Understanding what mitigates these symptoms is an important part of addressing this growing problem from both a treatment and prevention perspective. Protection may come from social networks and social support. Social support has been defined as assistance that can be either material or emotional forms received by a person from their social network.[13] The important sources of social support for adolescents typically include family, friends, and teachers.[14,15] Several studies provide evidence of a relationship between social support and mental health, including depression in adolescents worldwide.[16-18] There is some evidence of the association between adolescent social support, especially from family and peers, and depression.[14,19,20] Adolescents who receive social support from their family and peers are often less likely to report depressive symptoms.[14] Family support (especially parental support) may increase adolescent resilience and thus prevent mental disorders. Positive parental quality has been associated with reduced depressive symptoms[21], increased self-esteem[22] and greater life satisfaction among adolescents.[23] As the research suggests, besides depression, social support may also contribute to positive mental health: those who report higher levels of social support from mother and father tend to be more satisfied with their lives.[24] The high level of life satisfaction was considered as one of the important protective factors against depression among adolescents.[25,26] Likewise, self-esteem plays an important role as a protective factor against depression among adolescents.[27] Adolescents who report low levels of self-esteem are more likely to report depressive symptoms.[28] In

addition, since peers become more important for adolescents, not surprisingly, they can also benefit from friend support and a number of studies find significant relationships with lower rates of depression[29], better self-esteem[22] and life satisfaction reported.[23]

As mentioned above, gender differences in depressive symptomatology and clinical depression have been well documented.[4,7] In addition, studies usually report gender differences in self-esteem: a large-scale systematic cross-cultural examination revealed that from adolescence to middle adulthood a significant gender gap exists: males consistently tend to report higher self-esteem than females.[30] In terms of life satisfaction, the association of gender with subjective well-being is inconclusive. Some studies report a lower life satisfaction for girls[31] or a lack of gender differences[32], while one Arabic study[33] found that young females were more satisfied with their lives than males. Gender differences may also appear in social support. In a study of university students from Malaysia, male students experienced greater stress, while female students had a better perception of social support from their families and reported lower levels of stress.[34]

While there is research examining these relationships among Arabic adolescents, few studies have documented depression or depressive symptomatology among Jordanian adolescents.[12] Ismayilova and colleagues conducted a study in Jordan to examine the level of depression and factors associated with it and found that Jordanian adolescents who perceived strong family support reported lower levels of depressive symptomatology[20]. Another study conducted in Jordan, showed that adolescents who had lower levels of life satisfaction were more likely to score higher on a depressive symptoms scale, and low levels of life satisfaction were the strongest predictor of depressive symptoms.[35]

In summary, while many studies examined the relationships between social support and mental health, more research is needed to explore the nuanced associations between mental health and social support among adolescents, particularly in Jordan, where this topic has traditionally been under-investigated. This pilot study is part of a research project on the mental health and health behaviors among Jordanian Adolescents. In this study, we aim to map Jordanian adolescents' mental health including depressive symptomatology, self-esteem and life satisfaction. Besides examining gender differences across these constructs, we also attempt to detect bidirectional associations between these mental health indicators and social support from family, friends and significant others. Finally, using depressive symptomatology as a dependent variable, multiple regression analysis is used to examine a series of models that assess the relationships between various forms of social support and mental health indicators.

Methods and Materials

A descriptive, cross-sectional design was conducted in November 2018. A multistage cluster random sampling technique was used with selection criteria based on type of school (private, public, male, female schools). The pilot study was conducted on 112 students aged 13 to 18 years, 54.5% were boys (n = 61) in grades 8-12. Thirty-one percent (n = 35) of the students were 16 years old, 17.9% (n = 20) of them were 17 years or more, 25.0% (n = 28) were 14 years old, and 25.9% (n = 29) were 15 years old. The assessment questionnaire included items on socioeconomic and sociodemographic variables, adolescent mental health, social support and network, and other

questions related to adolescent health behaviors. Specifically, we measured the following:

The *Multidimensional Scale of Perceived Social Support*[36] (MSPSS) contains 12 items. Participants were asked about how they feel about statements like (e.g., "My family really tries to help me"). The answers were evaluated on a Likert-type scale from 1 = very strongly disagree to 7 = very strongly agree. The (MSPSS) was shown to be a valid and reliable measure of perceived social support. The internal consistency of Arabic translation of the MSPSS was high (α = .87)[37], a value comparable to the reliabilities reported by Zimet et al.[36]

Diener's Satisfaction with Life Scale[38] contains 5 items designed to measure global cognitive judgments of one's life satisfaction (not a measure of either positive or negative affect). Participants indicate how much they agree or disagree with each of the 5 items using a 7-point scale that ranges from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha value of reliability with the current sample was .83, a value comparable to the reliability reported earlier by another study with Arabic-speaking sample.[39]

Rosenberg's Self-Esteem Scale[40] contains 10 items that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree and the Cronbach's alpha value reliability was .65.

As a measurement of depressive symptomatology, *Center for Epidemiological Studies Depression Scale for Children (CES-DC)*[41] was used. The instrument contains 20 items. Each response to an item is scored as follows: 0 = "not at all", 1 = "a little", 2 = "some", 3 = "a lot". The scale is shown to be a valid and reliable measure of depression. Cronbach's alpha value was .85 in this sample.

Study Procedure

First, the researcher provided a straightforward explanation of the importance of research to the study participants, teachers and school administrators. Students had the freedom to participate in research without any pressure from school or parents, and they had the right to refuse answer to any question and to withdraw from the study at any time without penalty. All students recruited for the study were invited to voluntarily assent and then obtain signed consent from their parents. Once consent was obtained from forms signed by the parents, they were collected from students by the researchers. Questionnaires were administered in the computer labs during the leisure or sports classes for the students through an online survey, which was developed by the researcher using Google drive forms.

Ethical Considerations

The Institutional Review Board (IRB) at University of Szeged, Hungary and the Ministry of Education in Jordan approved this research and all study procedures. Informed consents that required parents /guardians' signature were provided. Confidentiality and anonymity were carefully protected and ensured during all stages of the study.

Statistical Analysis

Data were analyzed using IBM, SPSS statistics version 23. Descriptive statistics were applied to describe the study demographics using frequencies (n), percentages (%), means, and standard deviation (SD). Chi-square ($\chi 2$) tests and t-tests were used to determine statistical significant differences or relationships. Bidirectional associations were tested by correlation analysis and multiple regression models (stepwise method) were introduced to detect correlates of depressive

symptomatology as the dependent variable, with social support, life satisfaction

and self-esteem, and sociodemographic as independent variables.

Results

We began the analysis with an inspection of the descriptive statistics (mean, S.D. and Student t-test for detection of gender differences) looking for patterned relationships between social support and mental health shown in Table 1

Table 1. Gender differences for study variables (N = 112)

	Males Mean (S.D.)	Females Mean (S.D.)	t-value (significance)
Satisfaction with life	22.4 (7.4)	27.9 (6.1)	**t = -4.3 (p = .000)**
Self-esteem	20.5 (3.8)	21.0 (3.2)	t = -0.7 (p = .475)
Depressive symptomatology	24.0 (8.7)	21.4 (10.3)	t = 1.4 (p = .156)
Social support – Family	18.4 (5.9)	22.2 (6.9)	**t = -3.6 (p = .001)**
Social support – Friends	18.8 (6.2)	20.5 (6.9)	t = -1.4 (p = .164)
Social support – Others	19.3 (6.1)	21.6 (6.7)	t = -3.6 (p = .060)

Note. Independent sample t-tests

Among the indicators of mental health, girls scored higher (M = 27.9; S.D. = 6.1) than boys (M = 27.9; S.D. = 6.1) on the satisfaction with life scale [t (110) = 4.3; p = .000]. No gender differences were found in levels of self-esteem and depressive symptomatology (p > .05).

In terms of the social support variables, girls reported receiving more support from their families (M = 22.2; S.D. = 6.9) than boys (M = 18.4; S.D. = 5.9; t(110) = 3.6, p = .001). Although girls also reported receiving more support from significant others (M = 21.6; S.D. = 6.7) than boys (M = 19.3; S.D. = 6.1), this difference was not significant likely due in part to the small sample size [t(110 = 3.6; p = .060].

Correlation analyses results are shown in Table 2. Depressive symptomatology was negatively related to the life satisfaction variable (r = -.33; p = .000) and to family support (r = -.42, p = .000) as well as support from significant others (r = -.21, p = .026). Satisfaction with life was positively associated with all types of social support: support from friends (r = .33; p = .000), significant others (r = .46; p = .000); but the strongest correlation was found with family support (r = .67; p = .000). A positive correlation was also found between family support and self-esteem (r = .19; p = .045).

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Table 2. Correlations among study variables in the full sample (N=112)

	2.	3	4	5	6	7	8
1. Satisfaction with life	0.09	-0.33***	0.67***	0.33***	0.46***	0.38***	-0.21*
2. Self-esteem	_	-0.16	0.19*	0.06	0.06	0.07	-0.11
3. Depressive symptomatology	_	_	-0.42***	-0.15	-0.21*	-0.14	0.07
4. Social support – Family	_	_	_	0.44***	0.56***	0.32***	-0.18
5. Social support – Friends	_	_	_	_	0.80***	0.13	0.16
6. Social support – Others	_	_	_	_	_	0.18	0.03
7. Gender	_	_	_	_	_	_	–
8. Age	_	_	_	_	_	–	–

Notes. Correlation coefficients. *p<0.05 **p<0.01 ***p<0.001

In Table 3, correlation coefficients are shown for boys and girls separately.

These correlations show that the protective role of social support is more important for boys than girls. Boys' satisfaction with life had a significant correlation with all sources of social support, family: (r = 0.66; friends: r = 0.55 ; significant others: r = 60; all for these relationships: p < 0.001), while girls' satisfaction with life was only significantly correlated with social support from the family (r = 0.55; p < 0.001). In terms of depressive symptomatology, among boys it was negatively correlated with family support (r = -0.42; p < 0.001) and with support from significant others (r = -0.30; p < 0.05), while for girls, only the correlation with family support was significant (r = -0.39 ; p < 0.01). Lastly, self-esteem was positively associated with family support among boys (r = .27 ; p < 0.05), but the correlation was not significant between self-esteem and social support among girls.

Table 3. Correlation matrix for bivariate relationships by gender.

	1	2	3	4	5	6
1. Satisfaction with life	_	0.07	-0.32**	0.66***	0.55***	0.60***
2. Self-esteem	0.06	_	-0.02	0.27*	0.14	0.08
3. Depressive symptomatology	-0.29*	-0.31*	_	-0.42***	-0.21	-0.30*
4. Social support – Family	0.55***	0.02	-0.39**	_	0.77***	0.73***
5. Social support – Friends	0.01	-0.05	-0.07	0.01	_	0.84***
6. Social support – Others	0.22	0.01	-0.08	0.36*	0.76***	_

Notes. Correlation coefficients. Boys above diagonal and girls below.
*p<0.05; **p<0.01; ***p<0.001.

Table 4. Multiple regression analysis for depressive symptomatology with other study variables

Full sample		**Boys**		**Girls**	
Variable	β (*p* - value)	Variable	β (p-value)	Variable	β (p-value)
Social support Family	-.42***	Social support Family	-.42***	Social support Family Self-esteem	-.38** -.30*
R^2	.18***	R^2	.18***	R^2	.24***

Notes. Standardized regression coefficients. Stepwise regression models.
*p < 0.05; **p < 0.01; ***p< 0.001

Variables included in models: age, gender (except for models by gender), satisfaction with life, self-esteem, social support family, social suppor friends, and social support others.

As the findings from Table 4 suggest, adolescents rely most on support from their families compared to other sources of social support. In the final model, a higher level of social support from the adolescents' family was consequently associated with a lower level of depressive symptomatology. Family support was found to be negatively associated with depressive symptoms for the whole sample as well as for the gender subsamples. In addition, self-esteem was negatively associated with depressive symptomatology among girls. These

two variables explained 24 percent of the total variation in girls's depressive symptomatology, while R^2 for the whole sample and for boys was approximiately 18 percent.

Discussion

In this study, the main goals were threefold: 1) to examine the relationship between mental health and social support in a pilot sample of Jordanian adolescents; 2) to detect possible gender differences among these primary study variables; and 3) to explore bidirectional and multiple regression relationships between depressive symptomatology and other study variables. Although these associations have partly been justified, some of them are inconclusive or – due to cultural variations – undetectable among Jordanian adolescents.

Based on the results from the present study, it was found that girls scored higher on the life satisfaction scale than boys. Although some of the studies came to a different result[31,32], this finding is consistent with another Arabic study in which females were more satisfied with their lives than males.[33] Another gender difference emerged when examining the relationship between girls' perception of social support from their families; this finding is also in line with another study from Malaysia.[34] Although previous studies usually report higher levels of self-esteem[30] and less depressive symptomatology among males[4,7], our findings did not support these research results. Clearly, more research is needed to detect possible cultural variations behind this phenomenon. It is also worth mentioning that in the study of Malaysian students, males experienced higher levels of stress than females.[34]

In the bi-directional analyses, depressive symptomatology was related to lower levels of life satisfaction in both sexes. This finding is consistent with previous research results.[35] On the other hand there was a lack of association between self-esteem and depressive scores among boys, while the correlation was significant and negative in girls. Furthermore, self-esteem did not correlate with life satisfaction at all. As proposed earlier, cultural factors may be playing a role here when we examine these types of relationships. For example, one cross-cultural study suggested that East-Asian people, e.g., Chinese feel as positively toward themselves as Americans do, but are less inclined to evaluate themselves in an excessively positive manner.[42] Although Arabs represent a major cultural group, we know much less about their evaluation of their self, particularly as it relates to indicators like self-esteem when compared with other cultural groups. Further explanations can be found in additional cross-cultural studies in which researchers report that self-assertiveness among Arabs may serve as strengthening interdependence, while for Westerners it serves as a source of independence.[43]

Among the different types of social support that were examined, family support played the most decisive role. This type of social support correlated with all indicators of adolescent mental health; positively with life satisfaction and negatively with self-esteem. These findings are similar to previous research results.[14,19,20] Positive parental relationships may serve as strong protective factors against adolescent depression both directly[21] and also indirectly through the general strengthening of self-esteem[22] and life satisfaction[23]. Social support from significant others played a limited role, while social support from friends was minimal. Although peer support had been hypothesized to a play greater role in adolescent mental health as earlier studies had suggested[23,44], this was not the case in the present analysis. This finding confirms the continued important role of parents in the influencing of adolescent mental health despite the increasing personal autonomy and peer-reliance during this age period.[4] Another study also found that decreased family (particularly parental) support

but not friend support predicted future increases in depressive symptoms and the onset of major depression.[45] It is also worth mentioning, however, that life satisfaction was positively related to social support from friends among boys, while none of the mental health indicators were associated with peer support among girls.

In summary, the results indicate the protective role of social support as being more important for boys than girls, despite girls' receiving more support. This finding is consistent with another study which found that for boys, social support from parents and a close friend buffered the manifestation of depressive symptoms among male peer victims more than among girls.[46] Other studies did not support this finding, e.g., another study found that mental health problems among girls were more related to their levels of social support compared to boys.[47] Multiple analyses justify the most important role of family support for both boys and girls, while for boys the social support correlate was a little stronger. In addition, for girls, self-esteem also proved to be a significant correlate in determining depressive symptoms.

Study Limitations

There are several important limitations to this study that must be taken into account in regards to how we are interpreting these findings. First, our study was cross-sectional which cannot provide a cause-and-effect relationship. Second, without clinical investigation, depression cannot be diagnosed; instead we used the term depressive symptomatology which is a continuous variable that better characterizes mental health symptoms for healthy adolescents. Third, because of the small size of the sample and the focus on a very specific set of Arabic adolescents in this study, results cannot be generalized. However, we believe that this pilot study can serve an important role in helping to develop more detailed and comprehensive studies contributing to a more complete understanding of the relationships between forms of social support and adolescent mental health among Arabic adolescent populations.

Conclusions

In conclusion, based on the findings of this study, social support is a significant correlate of mental health among Jordanian adolescents. This is particularly the case for family support where even during adolescence, social support from the family members was protecting adolescents from depressive symptoms and strengthening positive mental health. Peer support, on the other hand, might play a limited role and more research is needed to determine its background. During adolescence, social networks may undergo drastic changes and youth begin to experience significant shifts as they develop more peer-based relationships.[24] However, this type of attachment seems to be less secure and stable than those found with family members. Less secure attachment, on the other hand, was related to lower levels of psychological well-being and adjustment, and put adolescents at higher risk to experience depressive symptoms.[48] Encouraging peer friendships built on love, respect and cooperation may also serve as protection that can improve mental health and reduce severe mental disorders among adolescents. Cultural factors may be a significant contributor to altering roles of different types of social support and gender differences, thus further investigations are warranted. Prevention of adolescent depression and maintenance of positive mental health is a prerequisite for healthy adulthood in both body and mind and the examination of these relationships in this study point to some valuable data that can be helpful moving forward in future work.

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