



# Relationship between Social Support, Problem-Solving Skills, and Resilience with Hardiness among First-Grade High School Students in Sari

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## Abstract

**Background and Objective:** Resilience is one of the factors that can prevent psychological problems among young people and adolescents. The purpose of the present study was to design and explain a psychological resilience model based on the feeling of social support through hardiness among high school students in Sari, Iran.

**Materials and Methods:** The present descriptive-correlational study was carried out on a total of 280 first-grade students in the high schools of Sari selected using multistage cluster sampling. Resilience questionnaire, social support questionnaire, and problem-solving questionnaire were employed for data collection. The Pearson's correlation coefficient and structural equation modeling were utilized to analyze the data using SPSS software (version 22) and AMOS software (version 22).

**Results:** The mean age values of the male and female students were reported as  $13.4 \pm 2.4$  and  $13.8 \pm 2.5$  years, respectively. The obtained results of the current study showed that there was a positive relationship between social support with resilience and hardiness. Hardiness also mediated the relationship between social support and resilience. Among the components of social support, the most influential factor was related to family support, and the most effective factor in resilience was the notion of competence and acceptance of love. In addition, the most effective factor in hardiness was the component of commitment.

**Conclusion:** The results of the present study revealed that hardiness and resilience increased with the enhancement of social support. The impact of social support on resilience also increased partially as a result of increased hardiness.

**Keywords:** Hardiness, Psychological resilience, Social support, Student

## Background

Resilience, as one of the critical components of the positive psychology approach, has gained a special place in mental health during recent years [1, 2]. This structure is one of the factors that can prevent psychological problems among young people and adolescents [3]. Resilience has been defined as a resource to facilitate overcoming adversity, problems, resistance to stress, and elimination of their psychological effects [4] and can guarantee and promote an individual's mental health [5].

Resilience also helps people successfully overcome life problems and acquire the skills they need to cope with these problems. The enhancement of resilience in individuals depends on cultural, scientific, and emotional contexts because a good perception of these domains helps individuals to have optimal performance [6]. The classroom environment can be useful in the enhancement of

students' academic resilience by the provision of opportunities for improvement and emotional, motivational, and strategic support [7]. Resilience is a multidimensional feature one of its constituents is social support [8].

Social support refers to care, affection, dignity, comfort, and support that other people or groups provide for an individual [9]. A person's perception or experience of being loved, cared for, respected and valued, and considered a part of a social network with help and commitment develops a safe relationship for each individual [9]. Social support means emotional support, tools, and information that others provide for an individual and make him/her feels valued and respected [10]. On the other hand, the support of teachers and school teachers is stronger than other supportive relationships because social support

received from family and friends may conflict with specific topics [11].

The results of studies showed that individuals with low social support had more clinical symptoms of depression and anxiety than those with high social support [12]. Inadequate social support among adolescents can lead to specific problems, such as feelings of loneliness and low self-esteem [13]. Students with higher resilience have a stronger family dependency, higher social support, and more excellent parental supervision [14]. Demonstrating a lack of social support is, in itself, a source of stress. Social support is considered interconnected social relationships that help individuals to cope with stressful living conditions as well as severity of stressors [15].

Another psychological construct, which is associated with resilience, is hardiness. Hardiness is defined as a set of personality traits serving as a source of resistance to stressful life events and consists of three components of commitment, control, and desire for a challenge [16]. Hardy people are more committed to their work, dedicate themselves to the achievement of their goals and purposes, define life events as predictable and manageable, and believe that they can control whatever happens through making effort. They think that they are self-determiners and decision-makers, consider life changes natural issues, and view them as challenges and opportunities (not threats to their security and comfort) to progress [17].

Studies have demonstrated the personality traits involved in the relationship between stress and illness modulating the deleterious effects of stress [18]. The nature of the two variables of resilience and hardiness leads to the suggestion of the hypothesis that they are interconnected and play a central role in the reduction of emotional problems, mental health, life expectancy, and life satisfaction. Resilience is a strong predictor, and hardy individuals have social support, parental social adjustment, better family care, and family performance satisfaction. In addition, hardiness is significantly higher among adolescents [19].

The model presented for hardiness shows that individuals with a hardy attitude have a greater ability to cope with stressful situations and can turn them from potential disasters into opportunities. Hardy people do not accept stressful situations as threats; however, they have more confidence and use coping strategies and social support for the management of discomforts and difficulties they experience [20].

Educational and developmental studies emphasize the importance of social support as an influential factor in resilience and related issue to adolescence

[21]; accordingly, the present study aimed to determine the relationship between social support with resilience and mediation of hardiness constructs and provide necessary insights into the modification and improvement of students' pedagogical and educational status. However, the enrichment of the existing knowledge of the impact of cognitive factor and personality on the resilience of students can provide the necessary context for designing and implementing intervention programs to enhance their resilience.

### Objectives

With this background in mind, the present study aimed to design and explain a model of psychological resilience based on a sense of social support with the mediation of hardiness among the high school students of Sari, Iran.

### Materials and Methods

This descriptive-correlational study was carried out using structural equation modeling (SEM). The study population consisted of all the first-grade male and female students ( $n=18,563$ ) of high schools in Sari in the academic year of 2018-2019. In the selection of the sample size, 10 to 15 individuals were required in modeling research for each explicit variable. Moreover, based on the available variables, 360 participants were selected using multistage cluster sampling among whom 353 students thoroughly answered the questionnaires.

Sufficient power for the rejection of a model based on the Chi-square test is another important consideration [22]. Then, there is sufficient power for individual parameter tests (i.e., loadings and paths). The ratio of cases to free parameters, or  $N:q$ , which is sometimes stated in terms of indicators in the context of confirmatory factor analysis, is commonly employed for minimum recommendations; however, it might not be as important as other factors, such as the overall sample size ( $>200-400$ ) and magnitude of the loadings (e.g., standardized value  $>0.60$ ), which may be more important [23].

The inclusion criteria for the study were first-grade male and female high school students in Sari in the academic year of 2018-2019, informed consent for participation in the study, no history of the use of psychiatric drugs, and no previous physical or psychological illness. The exclusion criteria were the use of psychiatric and psychedelic drugs, provision of incomplete information, and lack of cooperation. The questionnaires with the required information were provided to the participants.

In order to take into account the ethical considerations of the study, all the individuals were verbally informed about the objective of the study

and possibility of withdrawal at any time. The study subjects were also assured that all the information will be kept confidential and used for research purposes. The participants' first names and last names were not recorded in order to preserve privacy. The process of data collection lasted for 2 months.

### Resilience Questionnaire

This questionnaire was developed by Connor and Davidson in 2003 with 25 items aimed to measure resilience in different individuals [24]. Each item is scored based on the Likert scale, and the overall score of the questionnaire is calculated by the sum of the scores of all the items within the range of 0-100. The reliability of the questionnaire was tested using Cronbach's alpha coefficient reported as 0.84. The validity of this questionnaire was also estimated at 0.79 [25]. In the present study, the validity and reliability of this questionnaire were reported as 0.77 and 0.83, respectively.

### Social Support Questionnaire

Ziment et al. developed the Social Support Questionnaire in 1998 to assess an individual's perception of the adequacy of social support resources, including friends, family, and influential people in life. This questionnaire has 12 specific items. All the items were rated on a 5-point Likert scale (i.e., Strongly agree, Agree, Not agree or Not disagree, Disagree, and Strongly disagree) within a score range of 12-60. The results of a study carried out by Walther et al. showed that the internal consistency was 0.89 for the social support subscale, 0.81 for family support, and 0.78 for other important people. The internal reliability of the social support subscale was calculated to be 0.78 [26]. In the present study, the reliability of the questionnaire was calculated using Cronbach's alpha coefficient as 0.79.

### Hardiness Questionnaire

The Kubasa Hardiness Scale was used for the measurement of the psychological hardiness factor. This scale has 50 items with three components of challenge (17 items), commitment (16 items), and control (17 items), each of which has four choices, within the score range of 0-3. The higher scores in the whole scale and its components indicate the higher degrees of that attribute in an individual. Therefore, it is possible to separately calculate each of these features, which ultimately reflects the weighted average of the scores of these three scales, showing the hardiness score. The construct validity of this scale in Iranian society was 0.53 [27]. Moreover, its

reliability using Cronbach's alpha coefficient was 0.84. Furthermore, Cronbach's alpha coefficients for the scales of control, commitment, and challenge were 0.68, 0.75, and 0.69, respectively [28]. In the current study, the reliability of this questionnaire was 0.84 using Cronbach's alpha coefficient.

### Problem-Solving Questionnaire

This questionnaire was developed by Cassidy and Long for the measurement of the respondent's perception of problem-solving behaviors. The questionnaire has 35 items with three components of problem-solving confidence, attitude-avoidance style, and personal control. The questionnaire is scored based on a 6-point Likert scale, and the highest score represents the highest level of awareness of problem-solving abilities. Internal consistency was obtained for the whole questionnaire (0.90) and reported as 0.85, 0.84, and 0.72 for the problem-solving subscales, avoidance tendency style, and personal control, respectively. Test-retest reliability in 2 weeks was reported within the range of 0.83-0.89 [29]. In the present study, the reliability of this questionnaire was 0.81 using Cronbach's alpha coefficient.

Firstly, for the statistical analysis of the data, descriptive information, such as mean and standard deviation, and Pearson's correlation coefficient between the variables were calculated using SPSS software (version 22). Subsequently, SEM and AMOS software (version 22) were used for the measurement of the proposed research model.

### Results

The mean scores of the male and female students' age were reported as  $13.4 \pm 2.4$  and  $13.8 \pm 2.5$  years (range: 13-14 years), respectively. In this study, half ( $n=180$ ) of the participants were male, and the other half ( $n=180$ ) were female. Table 1 shows the mean scores of the components of the study variables.

The mean values of social support, hardiness, and resilience were reported as  $45.3 \pm 7.7$ ,  $89.4 \pm 16.1$ , and  $84.3 \pm 14.6$ , respectively. In order to determine the normality of the distribution of the scores, the study variables were assessed using the Kolmogorov-Smirnov test. Since the significance level for all the variables was greater than 0.05, the data followed the normal distribution, and the use of parametric statistical tests was allowed for the inferential analysis of the data. Figure 1 illustrates the relationship between social support variables and problem-solving skills with the mediation of hardiness in resilience.

Documented by the standard coefficients of

structural equations, social support had an inverse effect on the hardiness variable with a factor of -0.29 and a direct effect on the factor of resilience with a factor of 0.23. Furthermore, problem-solving skills had a direct effect on the hardiness variable with a load factor of 0.81 and a direct effect on the resilience variable with factor of 0.74. The effect of hardiness on the resilience variable with a factor load of -0.26 was also inverted. Based on the aforementioned results, the hardiness was a partial mediator in resilience for the relationship between social support and problem-solving skills. The above-mentioned SEM showed that problem-solving skills were directly and significantly influenced by the variables of social support (with a coefficient effect of 0.41, covariance error of 0.07, and  $t=5.24$ ; variance error of 0.83 and  $t=5.12$ ).

Hardiness (with a variance error of 0.39 and  $t=5.28$ ) affected problem-solving skills (with a coefficient effect of 0.81, covariance error of 0.10, and  $t=7.98$ ) and had a significant and inverse effect on social support (with a coefficient effect of -0.29, covariance error of 0.07, and  $t=-2.97$ ).

Resilience (with a variance error of 0.52 and  $t=5.81$ ) had a direct and significant effect on problem-solving skills (with a coefficient effect of 0.74, covariance error of 0.18, and  $t=4.10$ ) and a significant and inverse effect on hardiness (with a coefficient effect of -0.26, covariance error of 0.14, and  $t=-0.28$ ). In addition, resilience had a direct and significant effect on social support (with a coefficient effect of 0.23, covariance error of 0.076, and  $t=-2.99$ ). Table 2 tabulates the standard propriety of the final structural model.

Table 1. Descriptive indicators of study variables

Study variable	Component	Mean	Standard deviation
Social support	School support	15.1	3.5
	Friends' support	13.5	3.7
	Family support	16.8	2.7
	Social support	45.3	7.7
Hardiness	Obligation	30.5	7.1
	Defiance	27.1	5.4
	Control	31.8	6.8
	Hardiness	89.4	16.1
Resilience	Notion of competence	26.9	5.9
	Confidence in the instincts	22.3	4.6
	Acceptance of love	17.2	3.8
	Control	10.3	2.7
	Spiritual influences	7.3	1.9
	Resilience	84.3	14.6
Problem-solving skills	Helplessness	2.68	1.1
	Restraint	2.20	0.9
	Creativity style	1.25	1.1
	Trust in problem-solving	1.76	0.9
	Avoidance style	1.85	1.1
	Orientation style	.96	0.9
	Problem-solving skills	10.72	2.7

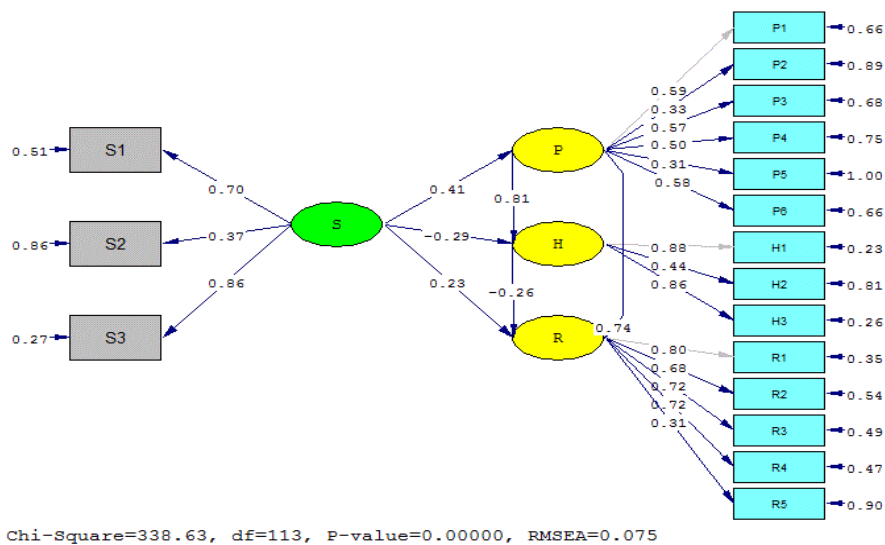


Figure 1. Structural model in the standardized coefficient mode

**Table 2.** Standard propriety of final structural model of impact of social support on resilience mediated by problem-solving skills

Indicator	Acceptable value	Number of study findings	Desirability
(X <sup>2</sup> /DF)	<3.00	2.99	Approved
The root mean square error of approximation	<0.08	0.07	Approved
Parsimony Normed Fit Index	>0.5	0.74	Approved
Goodness of fit Index	>0.8	0.90	Approved
Adjusted Goodness of Fit Index	>0.8	0.86	Approved
Normed Fit Index	>0.9	0.90	Approved
Non-Normed Fit Index	>0.9	0.91	Approved
comparative fit index	>0.9	0.93	Approved
Incremental fit index	>0.9	0.93	Approved
The Root Mean Square Residual index	If closer to 0	0.68	Approved

## Discussion

The obtained results of the present study showed that there were positive relationships among social support, hardiness, and resilience. Hardiness also mediated the relationship between social support and resilience. Among the components of social support, the highest effect was related to family support, and the most effective components in resilience were commitment and acceptance of love. Furthermore, the most effective component in hardiness was commitment. These findings are in line with the results of various studies carried out by Hystad et al. [30] and Jun et al. [31].

In explaining the relationship between social support and resilience, it can be concluded that parents who are positively receptive to children are kind, support their children, and have a higher level of resilience, compared to families who lack such experiences. The competence and performance of children are closely linked to family support. Families with the notion of competence, more self-control, and more affection and trust in their children are more likely to have competent and resilient children. Additionally, students who are more supported and cared at school show more motivation and interest in the subjects and homework and have higher educational success; even they display more consistent behaviors with other students and better meet school expectations. According to Bandura, social support helps individuals feel self-esteem, have the notion of competence, and show desirable behaviors in stressful cases [11]. Moreover, when parents and family members feel anxious about their children, they let their children know that they are precious to them and provide them with comprehensive support. Family support directly affects people's mental well-being, and when this feeling of support for family members is strengthened, it leads to show behaviors, such as self-esteem, trust, acceptance of love, and self-control.

Individuals who are parts of a more extensive social network are less likely to be adversely affected by stressful life events and suffer from psychological problems. In addition, the enjoyment of support

systems, such as family and school, naturally facilitates handling problems. Moreover, it is assumed that social support acts as a shield or buffer against the pressures of life and threat to health.

In examining the relationship between hardiness and resilience, the obtained results of the current study revealed that there was a significant and direct relationship between hardiness and resilience. Commitment and notion of competence are the most effective components in hardiness and resilience, respectively. The nature of the two variables of resilience and hardiness leads to assume that they are interconnected and play a key role in the reduction of emotional problems, mental health, and life expectancy. Furthermore, one of the factors that can help an individual improve his/her status in difficult and inappropriate situations and focus on the fulfillment of tasks and goals is resilience.

Rutter [16] believes that resilient people are not necessarily faced with fewer challenges; however, they cope with these changes, achieve their balance faster, maintain performance better, and are physically and mentally healthier. Moreover, resilient individuals return to their original state faster, and they are even stronger than before. Resilience requires acknowledging the limitation on the ability to evaluate and identify what is beyond control and do the best for the possible things.

Hardiness is considered one of the stress-modulating personality traits, and people who are highly committed (to the alienation point) perceive the importance, value, and meaning of their identity and action. Those who are active in control (i.e., the opposition to disability) see life events as predictable and controllable factors and believe that they can change their environment with effort.

Challenge (i.e., the opposition to danger with fear) points out that change, not stability and security, is a natural aspect of life; therefore, by the enhancement of hardiness and its components, one can increase the notion of competence, which is one of the components of resilience. The improvement of resilience requires time, effort, commitment, and focus which will not happen

overnight or by reading a book and talking to a therapist. Consequently, it can be said that it is a process that will take months to learn. Therefore, an individual should not despair because resilience is a skill that can be easily enhanced with patience and training.

Given that hardy individuals experience life events similar to those who are nonhardy, they anticipate the conditions, have great power to control and predict the factors contributing to the achievement of their goals, and struggle to reach their goals; accordingly, they evaluate these events as unstressful and are optimistic about their ability to cope with them, which is why their resilience has increased and their adaptability is even higher.

In examining the relationship between social support and hardiness, the obtained results of the present study revealed that there was a significant relationship between social support and hardiness. In social support and hardiness, the most effective factors are family support and commitment, respectively [32]. Hardy people have the power to control life events and evaluate them as opportunities for progress rather than problems. In other words, hardy people do not only consider themselves victims of change but also the determinants of the outcome of change [17].

In addition, individuals can learn the hardiness attributes, including the components of commitment, control, and struggle, that are essential to achieving goals within the family as a source of support. In examining the effect of social support with hardiness meditation on resilience in high school students, the obtained results showed that there is a relationship between social support and resilience through hardiness [29]. Social support has a significant relationship with hardiness and resilience. Moreover, hardiness has a significant relationship with resilience; however, the role of hardiness mediates the relationship between social support and partial resilience. In explaining this finding, it can be said that hardiness and social support are factors that can serve as shields against the stressful happenings and events that individuals experience.

Social support also reduces isolation in individuals and creates a sense of self-esteem and value. As social support (received from others) becomes greater, individuals get more committed to their goals because it makes them feel loved and cared for by others, valued and respected, and belonging to a network of communication. As these supportive and communicative networks become wider, they help people cope better with environmental pressures and put them in a relaxed position; as a result, the aforementioned factors increase resilience.

Hardiness is a combination of beliefs about the self and world, including the components of commitment, control, and struggle. Individuals with a high commitment are aware of the value and importance of doing the activities; therefore, they are able to rely on themselves to succeed in their activities. In addition, individuals with a high level of control consider life events predictable and controllable and believe that they can influence what is happening by effort.

Moreover, hardy people struggling to solve problems one after another with perseverance believe that change is a natural aspect of life and consider positive and negative situations opportunities for growth and learning rather than threats. This belief enhances flexibility and endurance and ultimately resilience. Hardy individuals are also highly adaptable to environmental and psychological pressures and unlike other people evaluate stressful events as positive and manageable. They look at problems realistically and choose effective coping strategies. These factors cause the physiological arousal resulting from negative evaluation and disease to be less frequently observed in hard individuals increasing their resilience.

The perception of social support can be more important in building self-esteem, notion of competence, and subjective well-being and enriching support networks. Parental presence and sense of support in children can lead to the acceptance of love, parental supervision, and sense of trust in children, and the notion that I am valuable as one of the strongest predictors of psychological well-being.

In line with the findings of the present study, it is suggested that educational people and parents increase a sense of support in children and students by recognizing the effective and vital role of protecting children and students as the most potent factors in the enhancement of resilience. Parents, for example, support any activity that is associated with innovation in order to make children more adaptable and responsive to problems and decisions they will be faced with. One of the limitations of the current study was the limited study population in Sari resulting in generalizing the findings to other cities with caution. In addition, the variables of economic status and family status were not controlled in the present study.

## Conclusions

The obtained results of the current study showed that as social support increased, hardiness and resilience also enhanced. The impact of social support on resilience also increased partially due to increasing hardiness.

### Compliance with ethical guidelines

All the ethical principles were considered in this study. The participants were informed about the purpose of the study and implementation of the stages. Furthermore, informed consent was obtained from all the subjects. They were also assured of the confidentiality of their information. Moreover, the participants were allowed to withdraw from the study at any time, and the results of the study would be available to them if desired. The present article was extracted from a doctoral dissertation in educational psychology in the Islamic Azad University of Bandar Abbas. Additionally, this study was approved by the Ethics Committee of the Islamic Azad University of Bandar Abbas with the ethics code of IR.IAUBA.REC.1397.008.

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### Authors' contributions

Conceptualization [Ali Ramazanpour]; Methodology [Mosa Javdan]; Investigation [Iqbal Zarei]; Writing Original Draft [Kobra Haj Alizadeh]; Writing – Review & Editing [all authors]; Funding Acquisition [all authors]; Resources [all authors]; Supervision [Mosa Javdan]

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### Conflicts of Interest

The authors declare that there is no conflict of interest.

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