

The Mediator Role of Life Satisfaction and Lack of Depression in the Effect of Intimacy With Parents on Resilience: The Next Generation of Path Modeling

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Abstract

Background: Coping with painful events and unfavorable emotions is a special goal for every human being. The ability to effectively cope with these events is called resilience. Among high-school students who are prone to facing many stressful incidents, this construct has had special importance because resilience predicts mental and physical health of students in the future to a great degree, and it will have many other positive effects as well.

Objectives: In this study, the effect of intimacy with parents on the resilience with the mediator roles of life satisfaction and lack of depression was studied in the framework of next generation of structural equations modeling (partial least squares).

Materials and Methods: This research design is correlation. The statistical population comprised of all high school students studying at public high-schools in the Baharestan county, Tehran, Iran. The sample included 386 students. They were selected using the random cluster sampling method and they all answered to a questionnaire, which was designed based on the conceptual model of the study.

Results: The SmartPLS 2.0 software was used to test the hypotheses. All hypotheses were confirmed at either the $P < 0.01$ or the $P < 0.05$ level. Results of the present study showed an indirect effect of intimacy with parents on resilience, and also the direct effect of life satisfaction and lack of depression on resilience.

Conclusions: The conceptual model of the present study reveals a good fit with the data, which shows the importance and the positive effect of intimacy with parents, life satisfaction and lack of depression on resilience.

Keywords: Resiliency, Parental Intimacy, Life Satisfaction, Depression

1. Background

Life is a God-given gift for humans in their short journey during their existence. Enjoying a life with favorable quality has always been, and still is, the human dream. For hundreds of years, finding the true meaning of "good life" and how to achieve it has been the focus of the studies and thoughts of many philosophers (1). During the twenty-first century, a group of psychologists has found that human beings should spend their intellectual energy on the positive aspect of their experiences. Therefore, one of the issues that has attracted much attention to itself in the previous decades is "positive psychology". This viewpoint emphasizes on the person's abilities and possessions, and believes that the goal of psychology should be the improve-

ment of the living standards of people and materializing their latent potentials. Today, a new viewpoint in health-related sciences in general, and specifically psychology, is forming and developing; whose goal is focusing on health, welfare and the description and explanation of the nature of psychological well-being (2).

Resilience is one of the normal concepts and structures which is considered and studied by positive psychology, and refers to successful adaptation in the face of challenges and threats (3). Resilience is not a mere passive resistance against harms or threatening situations; on the contrary, the resilient person is the active contributor and builder of his/her environment (4). This construct is especially important during middle adolescence as this period involves

extensive changes in cognitive, neurobiological and social domains. During this period, the adolescent completely passes the borders of childhood and enters a new phase which makes him/her encounter many difficulties (5). On the other hand, as Smith and Carlson (1997) have pointed out (6), during this period, adolescents consider events and incidents more stressful compared to adults. In order to cope with their problems, they may turn to unhealthy behaviors or develop a very negative attitude toward themselves (7). More adolescents and especially those who are in the middle stages of this period, find resilience a protective factor against future risk factors. This concept is considered as a new realm, which has attracted the attention of many researchers to itself.

Many researchers have pointed out resilience as a good idea with high functional value which helps people and protects them against risks and dangers which they will face in their lives (5). On the other hand, lack of resilience during the middle adolescence may be accompanied by impulsiveness, weak reaction control and internal conflict. Therefore, in regards to the sensitivity of this time period and the importance of resilience in contemporary life, the aim of this study was to examine the resilience in middle adolescence on the basis of the variables including intimacy with parents, lack of depression and life satisfaction.

1.1. Theoretical Framework, Conceptual Model and Hypotheses

Resilience is considered as one of those concepts that have had a great impact on psychology because it switched the focus of psychology from examining patients who have multiple problems to examining those people who, despite multiple problems in their lives, cope with difficult situations and become successful. The growth and development of resilience during adolescence produces many positive effects, and if the adolescent learns that he/she possesses an internal quality with which he/she can cope with hardships and difficulties in life, it will turn out to become a very useful tool for him/her in all future endeavors.

One of the variables that has a direct effect on resilience is life satisfaction. Life satisfaction refers to the person's mental assessment of the degree of the realization of his/her needs, goals and dreams. In other words, life satisfaction involves satisfaction of different aspects of life, family, school, friends and other areas (8). In this research, this construct was operationalized through indicators which have been obtained by reviewing the research literature. Reviewing the research literature (9-12) showed students who had a high level of life satisfaction enjoyed more resilience compared to their peers who had a lower level of life satisfaction. Cattan (10) attributed it to the fact that adolescents who had a high level of life satisfaction tended to have a lower level of perceived stress and had an

optimistic viewpoint towards the future and challenging circumstances. Later in the same research, Cattan pointed out that these adolescents enjoyed full-fledged and especially affective support from their families and ultimately, all these factors contribute to the adolescent enjoying a higher level of resilience. Considering the aforementioned propositions, the first hypothesis this study made was:

- Hypothesis 1: Life satisfaction has a direct effect on resilience.

Another variable with a direct effect on resilience is lack of depression. Bandura's social cognitive theory proposes an agentic model of depression in which rather than being affected by environmental stresses or individual vulnerabilities, the individual performs the agentic role in his/her adaptability. In this model, those factors that lead to the successful adaptability of the individual enable him/her to actively act on events and choose, organize or change them (13). In other words, in the etiology of depression, cognitive-behavioral models enjoy a special position. In these models, depression is assumed to result from a collection of negative cognitive schemata, learned helplessness, negative attributive style, defects in self-regulation and lack of efficacy (13). It is obvious that those adolescents who are not depressed have efficacious thoughts, attributes and beliefs which enable them in addressing and overcoming adversities, or in other words, make them resilient. Considering what was mentioned in the previous lines, the second hypothesis of this study was formulated as:

- Hypothesis 2: Lack of depression has a direct effect on resilience.

Intimacy with parents is also considered as a very important factor in the creation of resilience in adolescents (14). Intimacy with parents points to the warmth and closeness of the relationship between the adolescent and his/her parents (15). Cowen et al. (16) believe the existence of a close affective bond with parents causes the adolescent to enjoy a higher level of life satisfaction, and compared to his/her peers who do not have close bonds with their parents - adolescents with close affective bonds with parents are either not afflicted with depression or they are afflicted by lower levels of depression. In other words, intimacy with parents indirectly causes the improvement of resilience and directly causes the improvement of life satisfaction, and lack of depression.

In Levin's "Field Theory" or "Typology", it is assumed that behavior is determined by the fields which exist in any moment in time. In other words, in the analysis of behavior, attention should be paid to the whole situation (as was emphasized by the Gestalt psychologists before Levin in their studies of perceptual events) (17). Also, in the ecological systems theory, it is assumed that the person develops

in a complex system of relations and is affected by several levels of the surrounding environment. Therefore, considering the aforementioned, family and the intimacy with family of the adolescent affect his/her life satisfaction and level of depression, and can make the adolescent resilient or not-resilient. The third through to the eighth hypotheses of this study were presented as follows:

- Hypothesis 3: Intimacy with mother has a direct effect on life satisfaction.

- Hypothesis 4: Intimacy with mother has a direct effect on lack of depression.

- Hypothesis 5: Intimacy with father has a direct effect on life satisfaction.

- Hypothesis 6: Intimacy with father has a direct effect on lack of depression.

- Hypothesis 7: Intimacy with mother has an indirect direct effect on resilience.

- Hypothesis 8: Intimacy with father has an indirect direct effect on resilience.

In sum, all the hypotheses propounded in the explanation of resilience could be presented in the format of a model based on the effective factors. The conceptual model of the research has been illustrated in [Figure 1](#):

As Kline (2015) (18) has mentioned, those hypotheses that enter the structural equations models should be based either on previously conducted research or theories. In this study, the first hypothesis was based on the works of (9-12); the second hypothesis was based on the research conducted by Kesebir et al. (19), and Bandura agentic model of depression; and the third to eighth hypotheses were based on the field theory, ecological systems theory and researches (20-24)

2. Objectives

In conclusion, this research was intended to examine resilience in adolescents based on such causal constructs as intimacy with mother, intimacy with father, life satisfaction and lack of depression using the second generation of the structural equations model (partial least squares). The logic behind using the partial least squares in this study was the complexity of the relations among the factors that affect resilience. In the field of behavioral sciences, experts are recommended to use this method because of the complexity of issues, lack of highly-substantiated theories, applicability and the need for straightforward decision-making (25, 26). The reason is that in covariance-based methods, we try to adapt the data with the theoretical model of the research whereas in the partial least squares method, we are trying to discover the theory that is inherent inside the data (25).

3. Materials and Methods

This study had these features: the purpose was “applied”; the method of gathering data was “descriptive”; and the relation between the research variables was “causal”. The study was conducted in the “survey” form which has, as one of its most important advantages, the ability to generalize the results, and it was compatible with the aims and hypotheses of this study. The research plan is considered to be correlative. To assess the measurement model and in order to test the hypotheses (the structural model), the partial least squares model by smart PLS 2.0 software was used in this study.

The study population comprised of all high-school students of Baharestan county in Tehran province in the 2011 - 2012 school year (about 9200 students in 32 schools) of whom, 386 students were selected as subjects using random clusters. In the first step in choosing the sample, 3 all-boy high-schools and 3 all-girl high-schools were randomly selected; in the second step, from among the different clusters in the high-schools, 3 classes were randomly selected and finally, the questionnaire was presented to all the students in the selected classes.

3.1. Instruments

The tool that was used to collect data in this study was a questionnaire comprising three parts: part “A” consisted of a letter which introduced the study, the study objectives, the method of answering the choices (with the indication, for avoiding bias, that there were no right or wrong answers; rather, the best choice was the subject’s first choice) and also an explanation pertaining to the confidentiality of the answers and the subjects themselves. Part “B” consisted of demographic data such as gender and age. In the part “C” of the questionnaire, the 23 main choices of the instrument were presented. It should be noted here that the choices pertaining to part “C” were a 6-level Likert-type scale. Some choices were presented in negative form and were therefore coded inversely for analysis. It should also be noted here that the choices used in the questionnaire were implemented from prior research applications and were combined to make this questionnaire. Below, the choices pertaining to each factor, their sources and the level of their reliability in this research have been presented ([Table 1](#)).

Considering the Cronbach’s alpha coefficients, it could be claimed that all the factors in this study enjoyed favorable levels of reliability.

4. Results

From a total of 386 participants, 207 cases (53.6%) were males and 179 cases (46.3%) were females. The mean age was

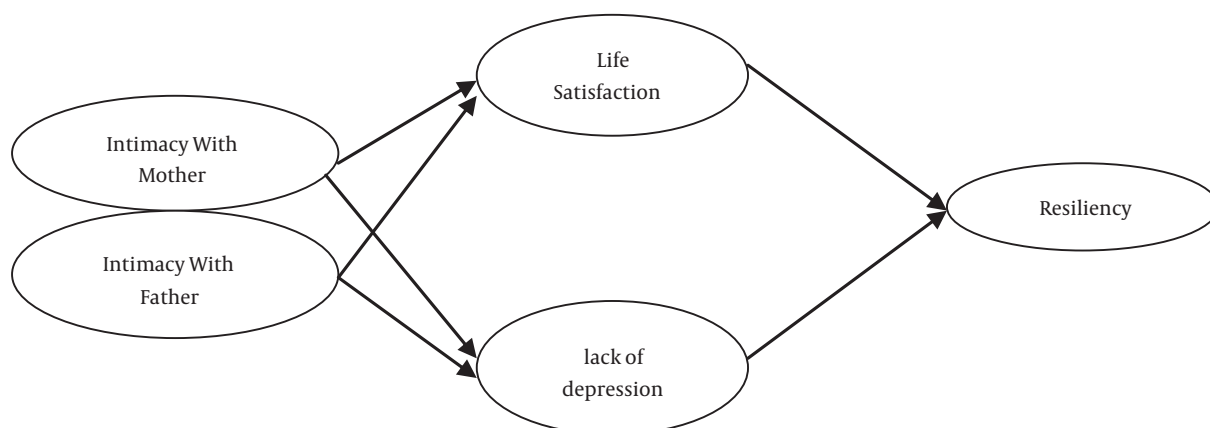


Figure 1. The Conceptual Model of the Factors That Have an Effect on Resilience

15.43 years (standard deviation = 1.02), ranging between 13 and 19.

The first step in the second generation of structural models is the examination of the validity and reliability of the choices which were used in the model, or, in other words, the assessment of the measurement model. The logic behind this is the fact that if we do not have enough trust in the choices to represent the construct, there would be no reason to use them for assessing the theoretical model in question.

Fornell and Larcker (38) have proposed the following three criteria for the examination of the reliability of the constructs: (1) the reliability of each item; (2) the composite reliability of each construct; and (3) the average variance extracted. Considering the reliability of each of the item, the factor loading of 0.60 or higher of each item in factor analysis was the proof that the construct had been well verified. Also, the factor loading of the items should be significant at least at the 0.01 level. Table 2 illustrates the factor loading for each item. In order to calculate the “T” statistic to determine the significance of factor loadings, the Bootstrap test (with 500 subjects) was used. The Bootstrap approach was first used by Chin (1998) (39) for PLS estimates. The Bootstrap approach is a nonparametric approach for estimating the correctness of PLS estimates. As this approach lacks the assumption of normality, it is more conservative regarding the second-type errors (40). As Table 2 illustrates, all the factor loadings were above 0.60 and all the items were significant at 0.01 level.

In order to examine the composite reliability of each of the constructs, the Dillon-Goldstein coefficient (pc) was used. The composite reliability was introduced in 1974 by Werts et al. (41), and is the index for internal congruence. In comparison to Cronbach’s alpha, this index does not as-

sume that all indices enjoy an equal loading. Therefore, Cronbach’s alpha, assuming the equality of loading, reveals the reliability somehow lower than what it really is while the index for composite validity is a closer approximate of what really exists as it considers the factor loading. The acceptable amounts for pc should be 0.70 or higher (41). As Table 2 illustrates, all the constructs enjoyed favorable composite reliability.

The third index for the examination of reliability was the average variance extracted (AVE). Fernel and Locker (1981) (38) believed this index could be interpreted as an index of reliability, which is more conservative compared to the composite reliability (pc). In the ideal form, AVE should be higher than 0.50 which means that 0.50 or more of the variance of the indices were justifiable. Table 2 shows the favorable average variance extracts for the data.

To examine the construct validity in this study, the convergence validity and the divergence validity were examined. The convergence validity refers to the convergence of the indices in measuring the underlying construct, which is created to be measured. In other words, how high were the factor loadings and whether they were similar to, or different from, one another. If the indices were in an extensive range between 0.50 and 0.90, the concern would arise as to whether the indices were homogeneous. But if the factor loadings were in a smaller range, say, between 0.70 and 0.90, then it could be claimed with more certainty that all indices helped to measure the underlying construct. Still, there was no constant criterion, constant range or minimum measure for factor loadings, but the smaller the range, the higher the convergence validity was assumed to be (42). In this study, the range of factor loadings for the construct of intimacy with mother was between 0.71 and 0.84, for the construct of intimacy with father was be-

Table 1. Factors, Choices, Sources and the Reliability of Each Factor

Latent Variables/Items	Reliability	Citations
Intimacy with Mother	0.85	Crosnoe and Elder (2004) (27); Brown (2006) (28); Bartlett et al.(2006) (29); Benson and Johnson (2009) (30); Ford et al. (2003) (31); Berg (2003) (32)
Closeness to mother		
Cares of mother		
Having interest for your mother		
Satisfaction with the way your mother communicate		
Satisfaction with the relationship with your mother		
Life Satisfaction		Huebner (1991, 1992) (33, 34)
Continuing life with interest	0.82	
Changing many things in your life		
Considering life as a good one		
Possessing what we want from life		
Having a better life compared to other students		
Lack of Depression	0.79	Brown (2006) (28); Videon (2002) (35); Wight et al. (2006) (36)
Feeling depressed		
Too tired to do things		
Feeling lonely		
Feeling sad		
Intimacy with Father	0.91	Crosnoe and Elder (2004) (27); Brown (2006) (28); Bartlett et al.(2006) (29); Benson and Johnson (2009)(30); Ford et al. (2003) (31); Berg (2003) (32)
Closeness to father		
Cares of father		
Having interest for your father		
Satisfaction with the way your father communicate		
Satisfaction with the relationship with your father		
Resiliency	0.70	Connor and Davidson (2003) (37)
able to adapt to change		
Tries to see humorous side of problems		
Can achieve goals despite obstacles		
Can handle unpleasant feeling		

tween 0.82 and 0.89, for the construct of lack of depression was between 0.74 and 0.82, for the construct of life satisfaction was between 0.68 and 0.87, and for the construct of resilience was between 0.65 and 0.76; all of these revealed the convergence validity of the constructs.

Divergence validity indicates that the construct is related more to its measurements than to other constructs. This validity is realized by examining the overlapping of variances, whereby if a certain construct has a greater correlation with other constructs compared to its measurements, then it is possible that these two constructs are not perceptually distinct from each other, and possess a simi-

lar type of measure. To examine this issue, we calculated the square root of the AVE and examined it against the correlations of the construct in question with other constructs (42). Chin (1988) (43) has recommended that the square root of the AVE of a construct must be higher than the correlation of that construct with other constructs. Table 3 illustrates the results that were obtained from examining the divergence validity. The results indicated that the divergence validity was favorable.

In order to gain reassurance regarding the divergence validity, we can consider the cross loading, as well. This loading is obtained by correlating the scores of each latent

Table 2. The Results of the Examination and the Reliability of the Constructs^a

Variables/Items	Factor Loads	pc	AVE
Intimacy with mother		0.89	0.64
1	0.78		
2	0.71		
3	0.81		
4	0.84		
5	0.83		
Intimacy with father		0.93	0.75
6	0.88		
7	0.82		
8	0.88		
9	0.89		
10	0.85		
Lack of depression		0.86	0.62
11	0.82		
12	0.74		
13	0.76		
14	0.81		
Life satisfaction		0.87	0.58
15	0.68		
16	0.87		
17	0.85		
18	0.69		
19	0.69		
Resiliency		0.81	0.52
20	0.73		
21	0.76		
22	0.75		
23	0.65		

^aAll the factors are significant at the level of 0.01 or higher.

variable with its indices and other indices of the model (39). The examination of cross loading revealed that the loading of the indices of the construct itself was higher than other indices, which showed the divergence validity, too.

After testing the measurement models and proving their correctness, the second step involved presenting evidence which supported the theoretical model and tested the structural model. Before testing the structural model and examining the assumptions of the model, it was necessary that the average, standard deviation and the correlations among the factors of the model be briefly examined.

These cases are illustrated in Table 4.

As Table 4 illustrates, from among the latent variables of the study, intimacy with the mother has gained the highest score, and lack of depression has obtained the lowest score. It should be noted here that the average was presented in the range of 1 to 6. A closer look at Table 3 also showed that all latent variables have positive and significant relation with one another.

In the structural model, the main emphasis of the analysis of the PLS was on the explained variance, and the significance of all the estimated roots. The potential predictability of the structural model was specifically assessed by the

Table 3. The Correlation Matrix and the Square Root of the Average Variance Extracted for Each of the Research Variables^{a,b}

Constructs	(1)	(2)	(3)	(4)	(5)
Lack of Depression (1)	0.78				
Intimacy with father (2)	0.34 ^b	0.86			
Life satisfaction (3)	0.44 ^b	0.36 ^b	0.76		
Intimacy with mother (4)	0.36 ^b	0.54 ^b	0.51 ^b	0.80	
Resiliency (5)	0.32 ^b	0.35 ^b	0.44 ^b	0.38 ^b	0.72

^aThe numbers in the diameter of correlation matrix are the square root of AVE for each constructs.

^bp < 0.01.

Table 4. The Mean and Standard Deviation of the Factors That Affect Resilience

Factors	Mean ± SD
Lack of Depression	3.87 ± 1.46
Intimacy with father	4.82 ± 1.33
Life satisfaction	4.32 ± 1.14
Intimacy with mother	5.16 ± 1.02
Resiliency	4.27 ± 1.10

R² values of the endogenic constructs. In PLS, R² is the value of the variance of the construct which is determined by the model. Figure 1 illustrates the factor loadings, path coefficients and the explained variance (R²).

As Table 2 illustrates, the theoretical model of the study could determine 22% of the variance of resilience, 27% of the variance of life satisfaction, and 16% of the variance of the lack of depression. The observation of the path coefficients also showed that life satisfaction had the strongest direct effect on resilience. As we move on, we will test the research hypotheses by presenting the coefficients of direct path, indirect path and all the variables in the model together with their significance (t-statistic).

The results illustrated in Table 5 show that all the research hypotheses had been confirmed. In other words, the fifth and eighth hypotheses were significant at 0.05 level and all other hypotheses were significant at 0.01 level.

5. Discussion

The main objective of the current study was that it could predict resilience during adolescence and explain part of its variance by presenting a structural model which considered the changes between intimacy with father and mother, life satisfaction and lack of depression. In this study, after presenting the structural model and gathering the data, we tried to assess the reliability of the conceptual

model by relying on the PLS approach. Also, relying on the validity of the model and research literature produced hypotheses, which were all confirmed.

When the first hypothesis of this study was confirmed, it seemed that adolescents enjoying life satisfaction had a schema of balance between individual and familial goals and they adapted their needs and talents with their reality. In the same vein, such adolescents had more flexibility when they encountered unfavorable events and, in other words, they were more resilient. On the other hand, adolescents who did not have life satisfaction were prone to defects, deviancy and significant or critical social impairments, and they might turn to wrong or foul problem-solving techniques when they faced even small problems and as such, adolescents had a lower resilience because they lacked the correct problem-solving techniques, which is one of the characteristics of resilience. The confirmation of the first hypothesis of this study, revealing the direct effect of life satisfaction on resilience, was congruent with the conducted studies (9-12).

Regarding the confirmation of the second hypothesis, revealing the direct effect of the lack of depression on resilience, it could be said that depressed adolescents were sad and disinterested, and they had low self-confidence. Such adolescents avoided daily problems and they usually used emotion-centered methods to solve their problems. It seems to follow that such adolescents would therefore have lower resilience. On the other hand, adolescents who were not depressed did not suffer from pervasive feelings of despair, feelings of guilt for imaginary or petty issues, feelings of worthlessness, nihilistic mentality, and obsessive mental ruminations. Such adolescents used problem-centered techniques to solve their problems, which required resilience, and they made optimum use of the support they received from their families. In other words, the combination of all the conditions that existed in the lack of depression would end up making a resilient adolescent. This finding was in line with the study conducted by (19), and it was also congruent with Bandura's agentic model of depression.

Regarding the confirmation of the third through eighth hypotheses of this study, it could be said that in families where there existed close affective bonds between the adolescents and their parents, the adolescents could easily express their emotions and their thoughts. In such families, there was little conflict, and dynamism was conspicuous. As such an environment provided the basic needs of the adolescents and prepared the basis for the development of their talents accommodated higher levels of life satisfaction and lack of depression in adolescents and made them more resilient. This finding was in line with Levin field theory or typology, ecological systems theory,

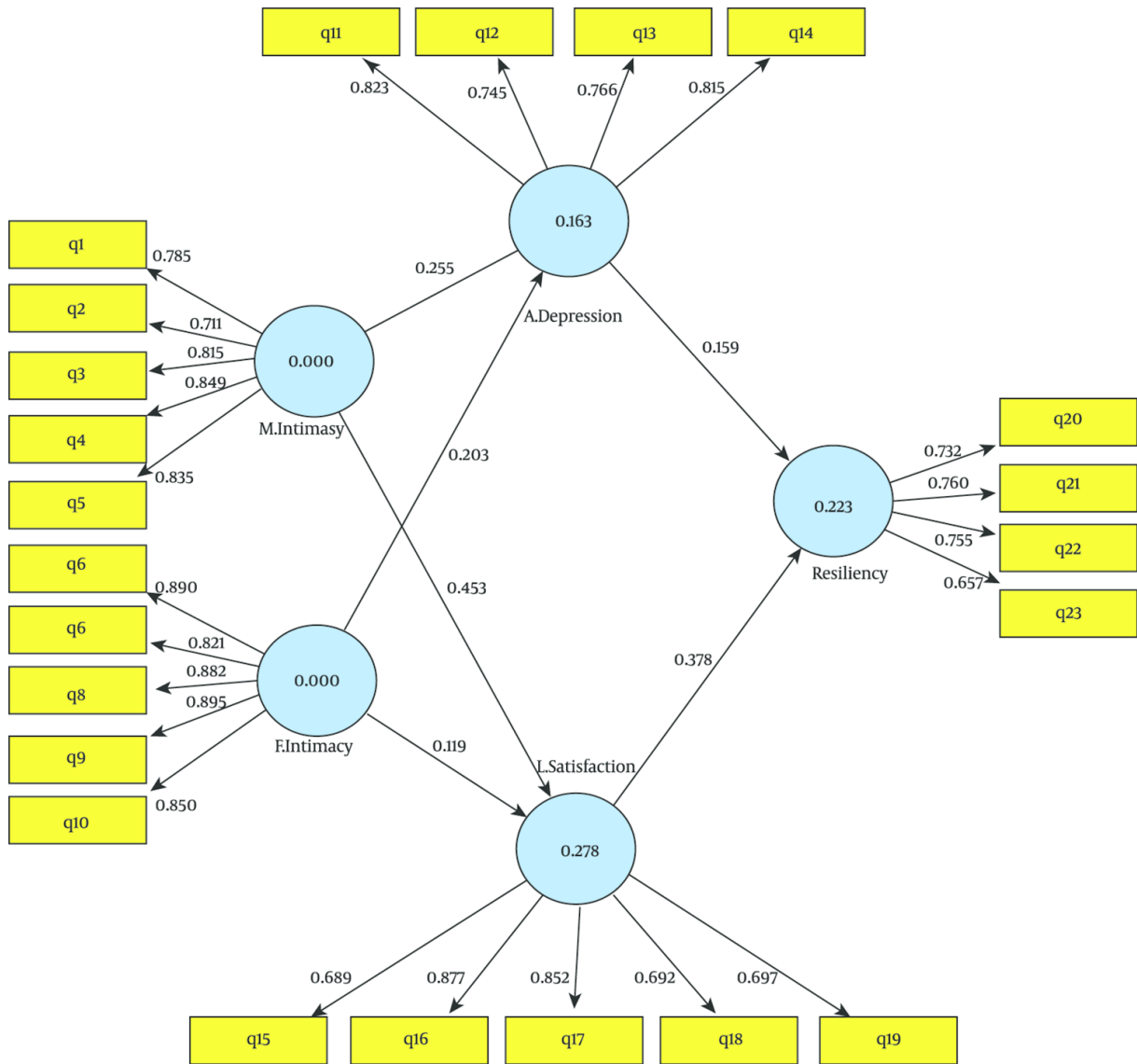


Figure 2. Factor Loadings, Path coefficients and Explained Variance (R²)

and the several conducted studies (20-24).

When generalizing the results and findings of this study, attention should be paid to these limitations in parameters: the statistical community was limited to the city of Baharestan; to only one single grade of education; and to a limited period of time. Additionally this paper is just a quantitative study. It is obvious that if we want to provide a rich, in-depth look about resiliency, we need to combine this study with qualitative studies. In sum, as this study revealed, it could be stated that intimacy with parents could directly improve life satisfaction and lack of depression, and could indirectly improve the level of resilience in ado-

lescents.

Suggestions:

- Parents should be educated in order to create an intimate environment at home whereby the basis for the improvement of life satisfaction and curbing of depression in adolescents is provided at home.
- As the goal of science is the explanation of phenomena, and in the explanation of phenomena, especially those phenomena which occur in the domain of behavioral sciences, numerous causes are involved, the confirmation of one model prepares the basis for testing other models and provides more precise explanations. There-

Table 5. The Coefficients and Significance of Direct and Indirect Effects of the Variables of the Model

Predictive Variable/Criterion Variable	Type of Effect	Path Coefficients	T-Statistic
Intimacy with Father			
Lack of Depression	Direct (total)	0.20	3.37 ^a
Life Satisfaction	Direct (total)	0.11	2.07 ^b
Resiliency	Indirect (total)	0.07	2.46 ^b
Intimacy with Mother			
Lack of Depression	Direct (total)	0.25	4.11 ^a
Life Satisfaction	Direct (total)	0.45	8.05 ^a
Resiliency	Indirect (total)	0.21	5.76 ^a
Lack of Depression			
Resiliency	Direct (total)	0.15	3.27 ^a
Life Satisfaction			
Resiliency	Direct (total)	0.37	6.68 ^a

^aP < 0.01.^bP < 0.05.

fore, in the studies that will be conducted in the future, other variables can be utilized so that more precise explanations are acquired.

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Footnote

Authors' Contribution: Study concept and design: Mohammad Hossein Khani and Batul Tamme; acquisition of data: Seyede Khadije Moradianie Geizeh Rod; analysis and interpretation of data: Mohammad Hossein Khani and Batul Tamme; drafting of the manuscript: Mohammad Hossein Khani, Batul Tamme and Logan Nickles; critical revision of the manuscript for important intellectual content: Logan Nickles, Seyede Khadije Moradianie Geizeh Rod, Mohammad Hossein Khani; statistical analysis: Mohammad Hossein Khani; administrative, technical, and material support: Mohammad Hossein Khani, Batul Tamme, Seyede Khadije Moradianie Geizeh Rod and Logan Nickles; study supervision: Logan Nickles.

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