

The Role of Coping Strategies as a Mediator Factor in the Relationship Between Stressful Events and Resilience

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Abstract

Objective: When individuals encounter stressful and potentially life-threatening situations, they often experience significant tension that can be challenging to manage without adequate emotional regulation and effective coping mechanisms. This study seeks to explore the function of coping strategies as a mediating factor in the connection between stressful experiences and resilience in university students.

Method: The research population consists of all university students enrolled in the academic year 2017-2018, characterized by a basic correlation approach. A total of 373 students were chosen using Morgan's table and a multi-stage cluster sampling method. Data collection was done utilizing the resilience questionnaire (CD-RSC), the coping strategies questionnaire (CISS), and the stressful events questionnaire (LEQ-12). Research hypotheses were tested using correlation analysis, path analysis, and simultaneous multiple regression techniques.

Results: The findings indicate a significant negative correlation between stressful events and resilience ($p < 0.01$), while a positive correlation exists between problem-oriented strategies and resilience ($p < 0.01$). Additionally, there is a negative association between emotion-oriented strategies and resilience ($p < 0.01$), as well as between avoidance strategies and resilience ($p < 0.01$). Furthermore, a negative relationship is observed between problem-oriented strategies and stressful events ($p < 0.01$), alongside a positive correlation between emotion-oriented strategies and stressful events ($p < 0.01$), and a positive relationship between avoidance strategies and stressful events ($p < 0.01$).

Conclusions: According to the results, teaching coping strategies can lead to increased resilience.

Keywords: Coping strategies, Stressful events, Resilience

Extended Abstract

Background and Objectives

Resilience is people's ability to stay healthy, to withstand difficult and high-risk situations, so that one will not only overcome those difficult situations, but will also get stronger (Prince-Embury & Saklofske, 2014). To be known as a resilient person, there should be two criteria: first, there must be a significant threat to individual development or adaptation, and second, despite the

presence of these risky and threatening factors, current or final compatibility is satisfactory (Alfred, Hammer, & Good, 2014). One of the contributing factors to resilience is coping strategies. When we face stress and critical situations, we choose our coping strategy from a larger and more diverse list. Lazarrose and Folkman divide stress coping styles into two broad categories of problem-centered and emotion-centered issues, suggesting that individuals use both types of these styles in dealing with situations. A coping mechanism that forms emotional stress is defined as emotion-centered, and the coping in which an individual tries to change the factors that create

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these emotional pressures is defined as problem-centered (Collins, 2008). Different researches show that problem-centered coping methods have a better impact on the well-being of people than non-problem-centered coping methods (Chinaveh et al., 2009). On the other hand, the emotion-centered coping method is an attempt to modify or reduce the emotional and social consequences of the events (Al-Dubai, Al-Naggar, AlShagga, & Rampal, 2011). The next major factor in resilience is stressful events. Negative and distressing stressful events include several stress factors that include chronic, acute, and catastrophic stressful events (Arnetz & Ekman, 2006). When psychological stress affects a human's biological and psychological aspects, physiological, cognitive, and behavioral functions are impaired, and abnormal functions appear. Based on what has been mentioned so far, the present research studies the role of coping strategies as a mediator factor in the relationship between stressful events and resilience.

Materials and Methods

This research is of a correlational kind. The statistical population of this research included all the students of Tabriz University in a total of 12536, during the academic year 2016-2017. According to Morgan's table, 373 people were selected as a sample from the mentioned society by the multi-stage cluster sampling method. To explore the research hypotheses, correlation, path analysis, and simultaneous multiple regression were used through SPSS 23 and LISREL 80/8 software. The questionnaire in this study consisted of: Resilience questionnaire, Coping strategies questionnaire, and Stressful events questionnaire.

Results

According to the results, there are negative correlations between stressful events and resilience ($r = -0.251$, $p < 0.01$), emotional-centered and resilience ($p < 0.01$, $r = -0.226$), avoidance strategy and resilience ($p < 0.01$, $r = -0.411$), and problem-centered strategy and stressful events ($p < 0.01$, $r = -0.534$).

Furthermore, there are positive correlations between problem-centered strategy and resilience ($p < 0.01$, $r = 0.486$), emotional-centered strategy and stressful events ($p < 0.01$, $r = 0.299$), and avoidance strategy and stressful events ($p < 0.01$, $r = 0.374$). as well as Results show that the GFI and AGFI values for the final modified model were 0.96 and 0.98 respectively. In addition, the RMSEA index was 0.07 in this model.

Discussion

This research is an attempt to investigate the role of coping strategies as a mediator factor in the relationship between stressful events and resilience in university students. The results indicated a negative correlation between stressful events and resilience. In explaining this finding, it can be said that when people experience stressful and life-changing events, they feel stressed, and if they do not have the appropriate emotional control skills and effective coping strategies, it will be very difficult for them to cope with these conditions. People who perceive situations of life as controllable are more induced to solve problematic situations through cognitive strategies. The findings also showed that there is a positive correlation between problem-solving strategy and resilience in students. In explaining this finding, it can be said that resilience leads to the ability of individuals to deal with unpleasant events and helps to maintain their health. To put it another way, regardless of the threats, resilience increases the capacity and ability of individuals to change (Delaney et al., 2015).

Conclusion

Regarding the relationship between stressful events and coping strategies, people who use problem-centered coping strategies in stressful situations use systematic and categorized activities to redefine the problem cognitively, which, as a result, gives way to finding a strategy and a solution to their problem. This, therefore, reduces their mental pressure and increases their psychological health. Overall, people with high resilience tend to use problem-centered strategies.

Introduction

Resilience, a significant metaphor within the realm of natural sciences, has been integrated into psychology for several years. This concept is characterized by different definitions and is supported by a rich and intricate body of literature, particularly in developmental psychology while gaining traction in social work and sociology (Putwain, Nicholson, Connors, & Woods, 2013). It refers to an individual's capacity to maintain well-being and endure challenging and high-risk circumstances, enabling them not only to navigate these adversities but also to emerge stronger from them (Prince-Embury & Saklofske, 2014). Factors that contribute to the enhancement of resilience are examined across three levels: individual, familial, and social influences (Jeong & Shin, 2023). The assessment of an individual's adaptive capacity is rooted in a comprehensive evaluation of various functional levels. To improve resilience, it is imperative to attribute equivalent importance to efficacious interventions that focus on enhancing personal and familial resources and competencies, alongside efforts to alter the social environment to confront its challenges and alleviate detrimental effects (Vandoninck, d'Haenens, & Roe, 2013). The exploration of resilience is vital from diverse vantage points. Empirical evidence suggests that individuals with diminished self-esteem are more susceptible to experiencing a greater incidence of emotional disturbances, including anxiety and depression, relative to the broader population (Yarnell & Neff, 2013). Additionally, research demonstrates that resilient individuals exhibit a reduced propensity to partake in high-risk behaviors, suffer from burnout, and face academic challenges (Rouse, Ingersoll, & Orr, 1998). To be known as a resilient person, there should be two criteria: first, there must be a significant threat to individual development or adaptation, that is, the presence of an important factor that threatens one's development or adaptation; and second, despite the

presence of these risky and threatening factors, current or final compatibility is satisfactory (Alfred, Hammer, & Good, 2014). The main practical achievement of the research on resilience is that it can promote a sense of identity, efficiency, decision-making ability, goal-setting, and hope for the future in individuals (Neff, 2016).

Resilience is defined not only by the capacity to confront and navigate challenges and negative events but also by the ability to adapt to the diverse demands of daily life. A crucial factor influencing resilience is the range of coping strategies individuals utilize. According to Lazarus and Folkman (1988), coping involves cognitive, emotional, and behavioral efforts aimed at managing, enduring, or mitigating the complexities associated with stress in the face of psychological challenges (Gillett & Crisp, 2017). When confronted with stressors and significant events, individuals draw upon a broad and varied set of coping strategies. However, despite the wide array of options available, people often tend to rely on a limited selection of strategies that are particularly effective in addressing their vulnerable situations (Harvey, Gehrman, & Espie, 2014). The effectiveness of each coping strategy is influenced by its inherent context, suggesting that even strategies deemed irrational can, in certain situations, possess a degree of compatibility that renders them valuable (Chinaveh, Ishak, & Salleh, 2010). Stress coping strategies are active and targeted processes for responding to a threatening stimulus (Pâquet, Rosen, Steben, Mayrand, Santerre-Baillargeon, & Bergeron, 2018). The approach to coping should not be viewed as a fixed personal condition; rather, it is a dynamic process that evolves and adapts through individual experiences. Regardless of the circumstances, coping is crucial for achieving balance, promoting well-being, and maintaining overall health.

A coping that forms emotional stress is defined as emotional-centered, in which an individual attempts to change the factors that create these emotional pressures

is problem-centered (Collins, 2008). In other words, problem-centered coping styles include performing appropriate activities to change the pressure situation and prevent or mitigate its effects. In dealing with the problem-centered method, the individual's goal is to reduce the pressure of the situation or find ways to deal with it. People sometimes use this method because they think they can change the situation or do something about it. Different researches show that problem-centered coping methods have a better impact on the well-being of people than non-problem-centered coping methods (Chinaveh et al., 2009). On the other hand, the emotional-centered coping method is an attempt to modify or reduce the emotional and social consequences of the events (Al-Dubai, Al-Naggar, AlShagga, & Rampal, 2011). Moreover, emotional-centered coping in response to stressful events may include a cognitive re-evaluation of the situation (Vowles & McCracken, 2010). Research indicates that coping strategies focused on emotions tend to correlate with elevated psychological stress, whereas approaches centered on problem-solving are associated with reduced levels of stress and psychological strain in challenging circumstances (Stanton, Tenen, Affleck, & Mendola, 2008).

A significant element contributing to resilience is the occurrence of stressful events. These negative and distressing experiences encompass various stressors, including chronic, acute, and catastrophic events (Arnetz & Ekman, 2006). Stress is an inherent aspect of daily life, manifesting as a psychological state that arises when an individual perceives a threat to their physical and mental well-being. It emerges from the interplay between environmental factors and the perceived mismatch between situational demands and the resources available to the individual (Joseph, Joseph, Panicker, Nelliyanil, Jindal, & Viveki, 2015). Individuals encounter a multitude of psychological stresses and challenging events in their daily lives that can jeopardize their mental and physical health.

Stress is characterized as an unpleasant emotional and physiological condition that arises when a person views a situation as perilous or threatening (Regehr, Glancy, & Pitts, 2013).

The research conducted by Batmaz, H., and Çelik (2024) indicates that students exhibiting high levels of anxiety sensitivity and perceived stress tend to demonstrate diminished resilience and life satisfaction. Notably, resilience and life satisfaction serve as partial mediators in this relationship. Consequently, it is evident that anxiety sensitivity significantly contributes to a reduction in perceived stress by enhancing students' resilience and life satisfaction, which in turn leads to lower anxiety levels, increased life satisfaction, and improved mental health. The impact of stress and the methods employed to cope with it manifest in both immediate physiological and emotional alterations, as well as enduring effects on mental and physical health and social functioning. For instance, individuals suffering from depression or anxiety not only endure intense stress but also possess a heightened vulnerability to stress, often exhibiting more pronounced reactions compared to their peers (Farber, 2013).

When psychological stress affects the human's biological and psychological aspects, physiological, cognitive, and behavioral functions are impaired, and abnormal functions appear. Moreover, due to psychological stress, the patterns of thinking are often disturbed and their performance is difficult. When stress increases, our attention to environmental demands diminishes, and self-interest and unrelated aspects of the environment increase. In addition, under tense conditions, logical decision-making, active information search, absorption, and accurate understanding are inadequately organized.

According to Ta'an et al. (2024), individuals experiencing a moderate level of stress exhibited typical levels of resilience. Their research indicated a moderate positive correlation between stress and

resilience, highlighting the significance of these results for psychological well-being and the alleviation of psychological and physical discomfort among individuals. In light of these observations, the current study investigates the function of coping strategies as a mediating factor in the relationship between stressful experiences and resilience. Specifically, it seeks to determine whether the three identified coping strategies significantly influence the connection between stressful events and resilience.

Method

Participants and Procedure:

This study was correlational research. The statistical population comprised all students enrolled at Tabriz University, totaling 12,536 during the academic year 2016-2017.

Utilizing Morgan's table, a sample of 373 individuals was drawn from this population through a multi-stage cluster sampling technique. Methods such as correlation analysis, path analysis, and simultaneous multiple regression were employed to investigate the research hypotheses by utilizing SPSS version 23 and Lisrel version 80/8 software.

Ethical Statement

The participants were given necessary explanations on the purpose of the study and how to complete the questionnaires. No personal information was requested from the participants, and they participated in the research anonymously and with full consent and knowledge.

Measurement

Resilience questionnaire: Prepared by Connor and Davidson (2003), this questionnaire consisted of 25 items in the format of a Likert scale from 0 (completely wrong) to 4 (completely true). The reliability of the questionnaire was assessed using Cronbach's alpha method, which yielded a reliability coefficient of 0.89 (Connor & Davidson, 2003).

a Coping strategies questionnaire: Endler and Parker (1990) created a questionnaire to evaluate various coping strategies employed in stressful circumstances. This instrument comprised 48 items, utilizing a five-point Likert scale ranging from "never" to "a lot." The reliability of the questionnaire was determined through the calculation of Cronbach's alpha coefficients, which yielded scores of 0.90 for girls and 0.92 for boys in the problem-solving style, 0.85 for girls and 0.82 for boys in the emotional-centered style, and 0.82 for girls and 0.85 for boys in the avoidance style.

b. Stressful events questionnaire: It was a 12-item self-assessment tool developed by Borgha (1990) to measure stressful events. The scoring is zero (lack of stressful event experience) and one (stressful event experience). The test-retest validity of this scale test was reported as 0.84 and 0.66 for three months and six months (Borgha, 1990).

Result

Table 1. Mean and standard deviation of the research variables

Variables	Mean	Standard deviation
Problem-centered strategy	52.84	7.79
Emotional-centered strategy	38.19	7.83
Avoidance strategy	40.36	6.93
Resilience	75.12	4.77
Stressful events	5.67	2.21

The data presented in Table 1 indicates that the mean and standard deviation for the problem-centered strategy are 52.84 and 7.79, respectively. In contrast, the emotional-centered strategy has a mean of 38.19 and a standard deviation of 7.83. The avoidance strategy shows a mean of 36.40 with a standard deviation of 6.93. Furthermore, the resilience measure reflects a mean of 75.12 and a standard deviation of 4.77, while the mean and standard deviation for stressful events are recorded as 5.67 and 2.21, respectively.

centered strategies and resilience ($r = 0.486, p < 0.01$), emotional-centered strategies and stressful events ($r = 0.299, p < 0.01$), and avoidance strategies and stressful events ($r = 0.374, p < 0.01$).

The findings of the primary hypothesis test, utilizing path analysis as the modeling method, are presented in Table 3 and Figure 1. Figure 1 illustrates the standard coefficient (R) alongside the proposed causal link between traumatic experiences and depressive syndromes, highlighting the

Table2. Correlation matrix of research variables

Variables	Problem-centered strategy	Emotional-centered strategy	Avoidance strategy	Resilience	Stressful events
Problem-centered strategy	-				
Emotional-centered strategy	-0.717**	-			
Avoidance strategy	-0.892**	0.863**	-		
Resilience	0.486**	-0.226**	-0.411**	-	
Stressful events	-0.534**	0.299**	0.374**	0.251**	-

**p<0.01 *p<0.05

Table 3. The value of the proposed and finalized models with data based on fitness indicators

Modification index	(X ²)	($\frac{\chi^2}{df}$)	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
First suggested model	181/140	3.85	0.82	0.94	0.90	0.78	0.92	0.87	0.11
Final modified model	91.080	2.70	0.96	0.98	0.95	0.91	0.97	0.92	0.07

The correlation coefficients of the research variables are presented in Table 2. The findings indicate that there are negative correlations between stressful events and resilience ($r = -0.251, p < 0.01$), emotional-centered strategies and resilience ($r = -0.226, p < 0.01$), avoidance strategies and resilience ($r = -0.411, p < 0.01$), as well as between problem-centered strategies and stressful events ($r = -0.534, p < 0.01$). In contrast, positive correlations were observed between problem-

mediating influence of the trans-diagnostic factor of rumination. Furthermore, Table 2 provides additional details, including the R (standard coefficient), t value, and model fitting indices. The final modified model achieved Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) values of 0.96 and 0.98, respectively, while the Root Mean Square Error of Approximation (RMSEA) index was recorded at 0.07.

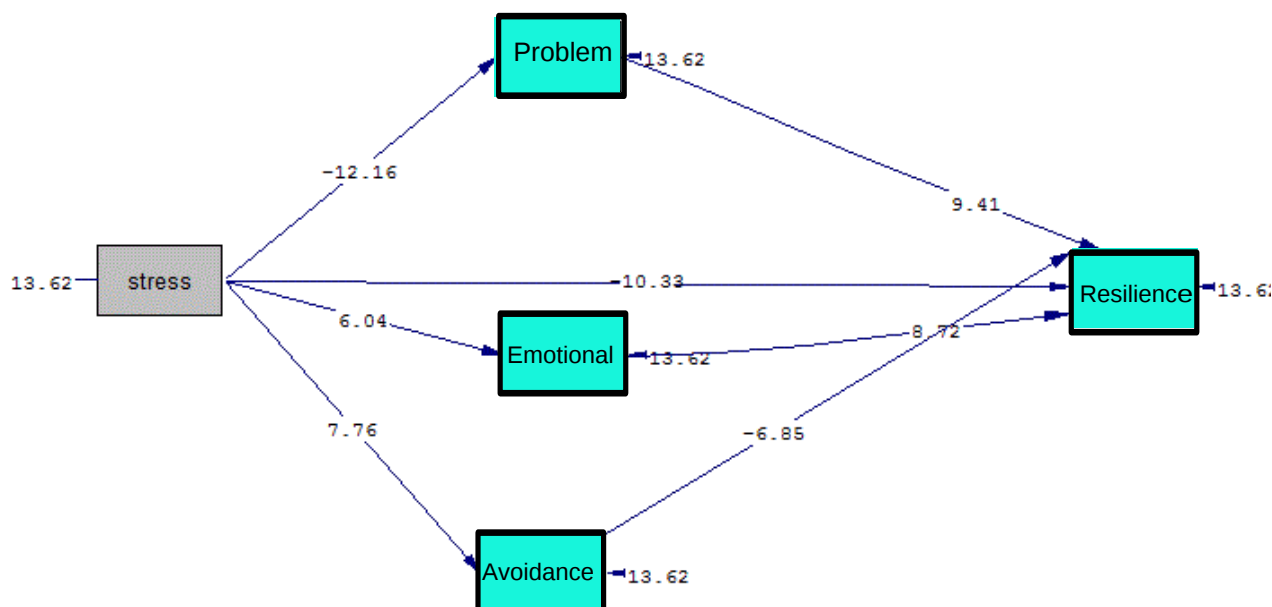


Figure.1. the outcome of relationship test among stressful events on resilience based on mediation of coping strategies in a meaningful manner

Discussion

This study aimed to explore the function of coping strategies as a mediating factor in the connection between stressful experiences and resilience among university students. The findings revealed a negative correlation between stressful events and resilience. These results align with the research conducted by Delaney et al. (2015), Yu et al. (2014), Belem, Caruzzo, Nascimento, Vieira, and Vieira (2014), and Batmaz and Çelik (2024). To elucidate this observation, it can be argued that individuals facing stressful and transformative events often experience heightened stress levels, and without adequate emotional regulation skills and effective coping mechanisms, they may struggle significantly to manage these challenging circumstances. Individuals who view life situations as manageable are more likely to address challenges through cognitive strategies. Such individuals tend to rely less on cognitive avoidance techniques, such as optimistic thinking and self-blame through rumination. Furthermore, they may not frequently pursue social support when confronted with difficulties, as their self-

assurance enables them to navigate these challenging circumstances independently, without the need for external assistance.

The research results indicated a positive relationship between problem-solving strategies and resilience among students. This observation aligns with the conclusions drawn by Delaney et al. (2015), Yi-Frazier (2015), Drumm et al. (2014), Belem et al. (2014), Hermans and Evenhuis (2012), Arce and Simmons (2009), and Jeong and Shin (2023). This correlation can be interpreted as resilience enhancing individuals' capacity to navigate adverse situations, thereby contributing to their overall well-being. In essence, resilience empowers individuals to adapt and transform in the face of challenges, as noted by Delaney et al. (2015). Moreover, the positive interpretation of the negative emotions by resilient people can provide them with a range of health issues. On the other hand, in the coping process, the person uses the problem-centered coping strategy of cognitive skills to solve the problem; it means that the ways of coping with the problem are investigated and, in fact, by finding the appropriate solution for the problem, psychological

satisfaction for the individuals is provided.

Conclusion

The connection between stressful events and coping mechanisms reveals that individuals employing problem-focused coping strategies engage in organized and methodical approaches to cognitively reframe the issue at hand. This process ultimately facilitates the identification of effective strategies and solutions, thereby alleviating mental strain and enhancing psychological well-being. Conversely, reliance on maladaptive coping strategies, such as avoidance and emotional responses, tends to perpetuate the problem rather than resolve it, resulting in an escalation of the difficulties faced. Individuals exhibiting high resilience maintain a robust and steady mindset when confronted with challenges, fostering a belief that difficulties can be effectively managed. This variance in attitudes towards adversity significantly influences the coping mechanisms employed by individuals. Generally, those with elevated resilience are inclined to adopt problem-focused strategies, actively addressing the manageable elements of stressors through methods such as information gathering, positive reframing, and reconstruction. In contrast, individuals with lower resilience often resort to less effective emotional strategies, including avoidance, denial, procrastination, and substance abuse.

Individuals exhibiting high resilience effectively address challenges, strategize their actions, and implement their plans accordingly. When confronted with life-threatening issues and emergencies, such individuals are more adept at problem-solving and conducting thorough evaluations of the situations they face. Resilient individuals can be characterized as both proactive and contemplative strategists who endeavor

to transform stressful circumstances to their advantage, thereby managing stress with more success. They tend to rely less on emotion-focused coping mechanisms, which often involve evasion and passivity, leading to a higher likelihood of succumbing to stress. They are struggling to deal with various stresses and stress factors in the direction of changing or eliminating them, and by accepting their role in creating the problem and trying to correct the situation against the problem they stand up against them. Regarding the relationship between stressful events and coping strategies with the resiliency of individuals, it is recommended that measures be taken to increase resilience and to train the use of a controversial strategy based on a problem-centered strategy to prevent damages caused by stressful events.

Limitation: The current research is not devoid of limitations. Initially, the participants were neither assessed nor interviewed, with the sole method of data collection being self-report questionnaires. Furthermore, as this study focused on non-clinical and non-cerebral populations, any generalization of the findings to clinical or delinquent groups should be approached with caution.

Suggestions: Future research should consider employing longitudinal studies, convenience sampling, and parallel questionnaires to mitigate the impacts of cross-sectional design, sample availability, and self-report questionnaires. These methodologies were not feasible in the current study due to certain limitations.

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