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The relationship between resilience, motivational structure, and substance use

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Abstract

Studies suggest that motivational structure and resilience play important roles in substance use. We studied the relationship among motivational structure, resilience, and substance use. Participants were university students (N = 120; 75% female, mean age = 21.5), who completed a demographic information sheet, Personal Concerns Inventory (PCI; to measure motivational structure), and Connor and Davidson's Resiliency Scale. The results showed that resilience and adaptive motivational structure were inverse predictors of substance abuse. The results of a mediational analysis showed that motivational structure was a full mediator of the relationship between resilience and substance use.

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1. Introduction

Many factors affect people's mental health and undertaking risky behaviors, among which one frequently studied factor is *resilience*. Resilience has been defined as the ability to resist stress and bounce back to normal homeostasis state (Werner, 1986; 2004).

Evidence suggests that resilient people have a better mental health status; have greater self-regulatory skills; higher self-esteem; greater parental support; and are less likely to get involved in high-risk behaviors such as drug abuse (Buckner, Mezzacappa, & Beardslee, 2003; Cuomo, Sarchiapone, Giannantonio, Mancini, & Roy, 2008; Wallace, 1999). It seems that self-disclosure, problem solving skills, and people's positive appraisal of their social support enhance their resilience (Bonanno, Galea, Bucciarelli, & Vlahov, 2007). Moreover, resilience is related to positive emotions that, in turn, play a protective role against depression and substance use after a crisis (Fredrickson, 2003; Bonanno et al., 2007).

Although resilience shelters people when exposed to distress, to gain and maintain a happy life they also need to succeed in achieving their daily goals. According to the motivational model of substance abuse (Cox & Klinger, 2004), people are likely to resort to chemicals, if they cannot maintain a sense of gratification or contentment that is unrelated to using substances. People who successfully set, pursue, and achieve substance unrelated goals feel more satisfied and hence less in need of manipulate their mood and affect via substance use. People's goal related strategies that affect their chances of success or failure is termed motivational structure. An adaptive motivational

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structure enhances people's chances to achieve their goals, whereas a maladaptive motivational structure reduces their chances of achieving them.

An adaptive motivational structure is identified by approach tendencies, good knowledge of what to do, high senses of control and commitment, high expectations of success, and the person's emotional involvement in the goal pursuit. Conversely, a maladaptive motivational structure (aversive approach, little knowledge, low senses of control and commitment, pessimism, and weak or inconsistent emotional involvement) increases chances of using alcohol (Cox, Hosier, Crossley, Kendall, & Roberts, 2006; Fadardi & Cox, 2008). The motivational model of substance use ascertains that all distal (e.g., past learning, culture, family), present (context, beliefs, nonsubstance-related goals vs. substance-related goals), and proximal (e.g., expected emotional change from drinking, temptations) are channelled through the motivational structure, which determines whether a person will make a decision to use a substance or refrain from using it. Therefore, theoretically, resilience should be also one of the factors that can determine the adaptivity or maladaptivity of motivational structure.

Although studies show that both motivational structure and resilience are significant predictors of people's decisions to use substances, the relationship between the two variables in predicting substance abuse was unclear. We hypothesised that (a) motivational structure and resilience predict the amount of substances consumed and (b) motivational structure mediates the relationship between resilience and substance use.

2. Method

Participants were undergraduate students from Ferdowsi University of Mashhad (N = 120; 75% female, mean age = 21.5), who were recruited through cluster random sampling method from all the university schools. Participants gave their informed consent prior to completing the questionnaires. Participation in the study was voluntary and participants did not receive any money or other forms of incentives for their participation.

2.1. Instruments

Instruments were self-reported, paper-and-pencil questionnaires. All participants completed a demographic information sheet prior to completing the study measures.

2.1.1. Personal Concerns Inventory

The Personal Concerns Inventory (PCI) (Cox & Klinger, 2004) is a modified, brief version of Motivational Structure Questionnaire (MSQ), which is mainly developed as a research tool. It normally lists 10 common life areas (e.g., home and household, finance, relationships). Respondents are encouraged to think of the most important goals that they may have in each life area then ranking themselves (from *not at all* to *very much*) on 11 indices that are important in goal pursuit activities, addressing their sense of control, knowledge of how to achieve the goal, commitment, expected happiness or sorrow, and goal distance. Cox and Klinger (2004) report a good reliability for the PCI. For the ease of data analysis, usually the PCI data are subjected to Principal Component Analysis (PCA). Many studies using PCA have come across two component structures; one indicating an adaptive and another indicating a maladaptive motivational structure. Good evidence on the reliability and validity of the Persian version of the inventory has been reported.

2.1.2. Connor and Davidson's Resiliency Scale

Connor and Davidson's Resiliency Scale (CD-RISC) (Connor & Davidson, 2003) is developed to assess resilience. It comprises 25 items on which respondents rate themselves on a score that ranges from 0 to 4. Higher scores on the scale indicate greater resilience. There is supporting evidence on the internal consistency, test-retest reliability, convergent validity, and divergent validity of the English version of the scale. Good evidence on the reliability and validity of the Persian version of the scale has been reported.

2.1.3. Persian Substance Use Questionnaire

The Persian Substance Use Questionnaire (P-SUQ) (Fadardi, Ziaee, & Shamloo, 2009) is developed to be conducted on participants whose self-reports on their substance use may be distorted due to being a highly sensitive environment (e.g., cultural stigmatization, organizational judgements) even though their anonymity is guaranteed. Therefore, P-SUQ consists 10 items that clearly refer to a range of non-prescribed, commonly used substances such

as caffeine, analgesics, and sleep pills; however, it only subtly addresses hard drugs (e.g., *unusual drinks, unusual substances*).

3. Results

The PCI data were first subjected to a Principal Component Analysis, which resulted in two factors; Table 1 shows the factor loadings for each component. As the Table 1 shows, Component 1 is clearly suggestive of an adaptive motivational structure; whereas Component 2 is suggestive of a maladaptive motivational structure.

Table 1. Factor loadings for the PCI indices subjected to Principal Component Analysis.

	Component 1	Component 2
Control	0.84	
Know what to do	0.73	0.37
Chances of success If	0.78	
Chances of success if no try	0.43	0.37
Happiness from achieving the goal	0.83	
Unhappiness from achieving the goal		0.61
Sorrow from failure to achieve the goal	0.54	
Commitment	0.82	
Goal distance	0.51	
Appetitive motivation	0.72	-0.43
Aversive motivation	-0.51	0.61

Note. Factor loadings smaller than 0.35 are suppressed.

The results of two separate regression analyses showed that both resilience ($\Delta R^2 = .059$; $F(1, 111) = 2.55$, $t = -.27$, $p = .008$) and adaptive motivational structure ($\Delta R^2 = .087$; $F(1, 111) = 3.31$, $t = -3.33$, $p = .001$) were inverse predictors of substance abuse, after the effects of demographic variables (i.e., age, gender, marital status, locality) had been controlled ($p > .05$). A mediational analysis was conducted on Resilience (IV), Motivational Structure (M), and Substance Use (DV). The results of the regression analyses and the Sobel test (Sobel Z-value = -2.25 $p = .02$; Direct = $-.12$, Indirect = $-.089$) showed that motivational structure (MS) was a full mediator of the relationship between resilience and substance use.

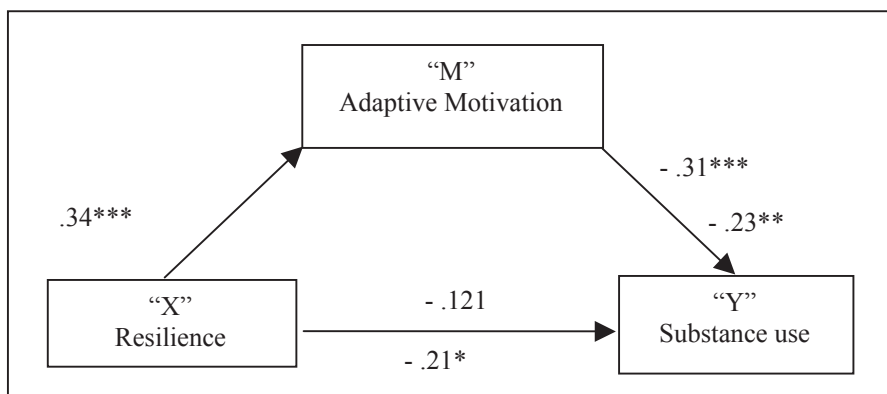


Figure 1. The results of mediational analysis on resilience, adaptive motivation and substance use.

4. Conclusion

The present study for the first time investigated the relationship between motivational structure and resilience in predicting using unprescribed substances among a sample of Iranian university students. The results of two hierarchical regression analyses showed that motivational structure and resilience were independent predictors of substance use even when the role of demographic variables had been controlled. However, conducting a mediational analysis indicated that the relationship between resilience and substance use was fully mediated by motivational structure. The findings support the importance of motivational structure in substance use.

In line with the literature on the characteristics of resilient people (e.g., Campbell-Sills, Forde, & Stein, 2009; Donnellan, Conger, McAdams, & Neppl, 2009; McGee, 2006; Veselska et al., 2009; Wagnild & Collins, 2009), we assume that resilience helps developing a more adaptive motivational structure. For example, people with high resilience are more likely than non-resilient people to show an appetitive approach when encountering difficult goals in their lives; this causes them to stay more committed to their goals. They also are more likely than non-resilient people to seek various sources of information, consult with their important others, ask for help if needed; this helps them to know what to do and feel in control. Moreover, due to having a positive look, probably, resilient people expect greater happiness from achieving their goals while underestimating negative feelings that might be associated with the difficulties associated with goal pursuit activities. Finally, resilient individuals believe in their own personal role in changing their destiny; a characteristic that enhances their achievement chances if they try. However, the hypothesized relationships await future research.

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