

## The Relation of Neuroticism and Insecure Attachment to Insomnia: The Mediating Role of Perfectionism and Cognitive Emotion Regulation

1. Tahere Sohrabian, 2. Simin gholamrezaei\*, 3. Mohamad Ali Sepahvandi

1. PhD Student in Psychology, Lorestan University, Khoramabad, Iran. EMail: [tsohrabian@yahoo.com](mailto:tsohrabian@yahoo.com)

2 . Corresponding Author: Assistant Professor of Psychology, Lorestan University, Khoramabad, Iran. EMail: [gholamrezaei.si@lu.ac.ir](mailto:gholamrezaei.si@lu.ac.ir)

3 . Assistant Professor of Psychology, Lorestan University, Khoramabad, Iran. EMail: [sepahvandi.m@lu.ac.ir](mailto:sepahvandi.m@lu.ac.ir)

### Abstract

The aim of this study was to investigate the mediating role of perfectionism and maladaptive cognitive emotion regulation strategies on the relationship between insecure attachment and neuroticism with insomnia. The study sample consisted of 381 female and male students of Lorestan University of Medical Sciences who were selected by cluster sampling. Participants answered the Insomnia Severity Index, NEO-Personality Inventory–Revised (NEO-FF-R), Frost Multidimensional Perfectionism Scale, attachment style questionnaire and Cognitive Emotion Regulation Questionnaire. According to the findings, neuroticism and insecure attachment have a direct relationship with insomnia. Neuroticism has an indirect effect on insomnia through the mediating role of maladaptive cognitive emotion regulation strategies. Both neuroticism and insecure attachment have indirect significant relationships with insomnia through the chained mediating effect of perfectionism and maladaptive cognitive emotion regulation strategies. Results showed that the maladaptive cognitive emotion regulation and perfectionism can partially explain the association between insecure attachment and neuroticism with insomnia.

**Keywords:** Cognitive emotion regulation, insecure attachment, insomnia, neuroticism, perfectionism

### Introduction

Previous studies have suggested that poor sleep quality is more prevalent among medical sciences students compared to general population (Rathi, et al., 2018). A less studied area in the etiology of insomnia is the predisposing and perpetuating role of personality and interpersonal factors and interactions between these factors together with emotional–cognitive processes. Studies show that insecure attachment style as a cognitive/interpersonal factor is related to sleep disturbance. Disruption in the sense of attachment is measured along two dimensions: anxiety and avoidance. Recent studies have found that these insecurities are associated with trait and pre-sleep hyperarousa and emotional dysregulation. (Palagini et al., 2018; Pagan, 2020) Personality structure is another factor that may contribute to the development or persistence of insomnia. Various studies have shown that individuals with sleep problems exhibit high levels of neuroticism (Rathi, et al., 2018). Highly neurotic individuals display diminished ability to regulate negative emotions (Yang, 2020). On the other hand, previous studies have shown that neuroticism and insecure attachment are associated with perfectionism (Stricker, 2019; Chen, 2019). Perfectionism as a set of dysfunctional cognitive/emotional attitudes can lead to sleep disturbances if accompanied by mediating factors such as stress and poor emotional

regulation (brand et al, 2015). Finally, studies show that using maladaptive strategies to regulate emotions has a range of maladaptive sleep-related consequences, including pre-sleep arousal (palagini, et al., 2017). literature review shows that no studies have examined associations between interpersonal, personality emotional-cognitive factors with insomnia simultaneously. The purpose of the present study is to develop and test a model through which these variables affect insomnia. Therefore, it is hypothesized that: 1) Insecure attachment and neuroticism have a direct effect on insomnia; 2) Maladaptive cognitive emotion regulation strategies have a mediating effect on this relationship.

## Method

This was a fundamental and descriptive-correlational study using structural equation modeling. The statistical study population included of Lorestan University of Medical Sciences students in the academic year of 2018-19. Of these 381 (242 female and 139 male) students who were selected by cluster sampling. The following questionnaires were used to collect data.

**Insomnia severity Index (ISI):** The ISI consists of 7 items assessing perceived severity of sleep difficulties. Construct validity of ISI is acceptable (0.74). Internal consistency of the index (Chronbach's  $\alpha$ ) was 0.83.

**NEO-Personality Inventory–Revised (NEO-FF-R):** The 60 item version of the NEO-PI was used to measure the five traits of personality. Concurrent validity of NEO-FF-R has been demonstrated (0.71-0.80). Also internal consistency estimates have ranged from 0.73-0.87 for subscales. in current study only neuroticism trait score was used in data analysis.

**Frost Multidimensional Perfectionism Scale (FMPS):** This scale consists of 36 items assessing 6 aspects of perfectionism. Convergence validity of FMPS is acceptable ( $r=0.29$ ,  $p=0.0001$ ). Assessment of internal consistency yielded a Chronbach's alpha of 0.63 to 0.84 for subscales. Three subscales were used in current study: concern over mistakes, doubts about action and parental criticism.

**Adult attachment Scale:** This scale consists of 15-items and measures the three styles of secure attachment, avoidant and anxious. Content validity of this scale has been demonstrated (0.57-0.80). Chronbach's alpha has been reported between 0.84-0.85 for subscales. In this study avoidant and anxious scores were used in data analysis.

**Cognitive Emotion Regulation Questionnaire (CERQ):** This Questionnaire consist of 36 items and measures 9 emotion regulation strategies. 4 strategies are grouped as maladaptive and 5 strategies are grouped as adaptive cognitive emotion regulation. CERQ has proper reliability and validity. Chronbach's alpha has been reported between 0.82 for total scale. In this study “maladaptive strategies” score was used in data analysis.

## Results

The data were analyzed using Structural Equation Modeling (SEM) in SPSS<sub>24</sub> and AMOS<sub>24</sub>. Indirect effects were tested using PROCESS<sub>3,4</sub> with 95% confidence level. For test The goodness of fit indices

showed that the model fits the data well ( $\chi^2/df = 2.58$ , RMSEA=0.65, CFI=0.96, AGFI=0.92, GFI=0.96, IFI=0.98).

According to figure 1, the direct effect of neuroticism on insomnia, perfectionism and maladaptive cognitive emotion regulation strategies was significant. The direct effect of insecure attachment on insomnia and perfectionism was significant, but this variable had no significant direct effect on maladaptive cognitive emotion regulation strategies. Bootstrapping estimate revealed that the Indirect effect of neuroticism on insomnia through the mediating role of maladaptive cognitive emotion regulation strategies was significant ( $b=0.016$ , 95%CI=.0.02-0.8). Moreover, both neuroticism ( $b=0.006$ , 95%CI=.0.004-0.027) and insecure attachment ( $b=0.013$ , 95%CI=.0.077-0.027) had indirect significant relationships with insomnia through the chained mediating effect of maladaptive cognitive perfectionism and emotion regulation strategies. Finally, The multiple mediation model explained 41% of the total variance in insomnia, 70% of the variance in perfectionism and 48% in maladaptive cognitive emotion regulation strategies.

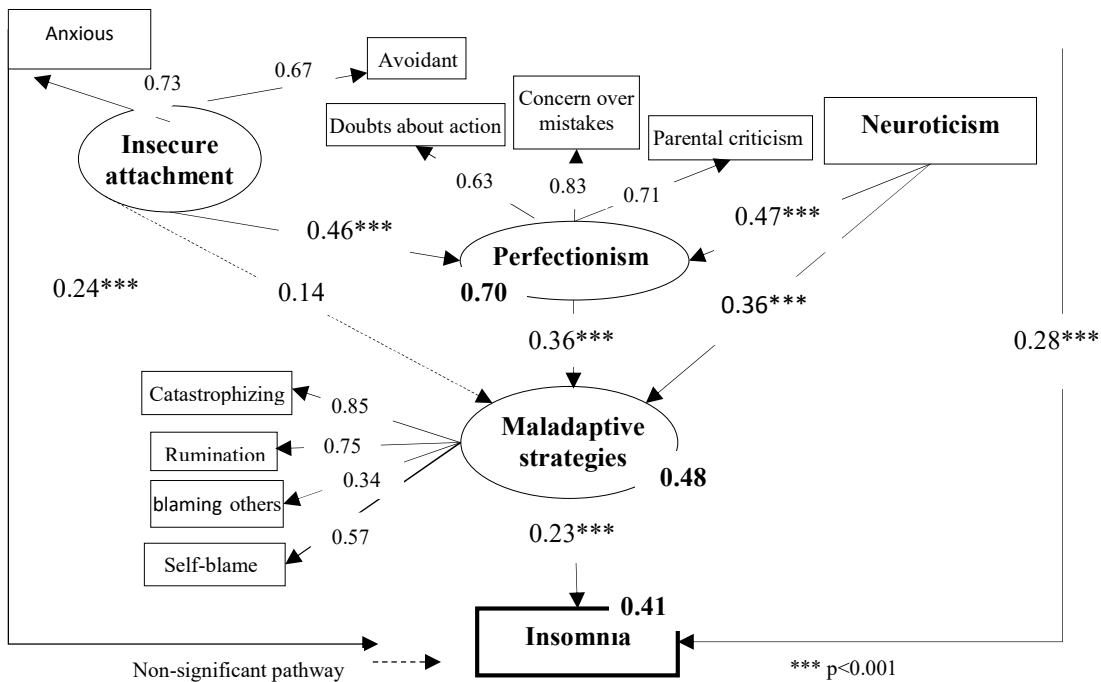


Figure 1. Measurement model of variables

## Discussion

The present research is the first study to investigate the complex relations between interpersonal, personality and emotional-cognitive factors together with insomnia. The study findings showed that neuroticism had a direct significant relationship with insomnia. Also, perfectionism and maladaptive cognitive emotion regulation strategies both mediated the relationship between neuroticism and insomnia. Results of this study indicated that insecure attachment was not only directly correlated with insomnia but also indirectly related with insomnia through the chained mediating effect of perfectionism and maladaptive cognitive emotion regulation strategies, but maladaptive cognitive emotion regulation had no role in the indirect relationship between these variables on its own. In other words, this finding shows that direct Insecure attachment, if accompanied by perfectionism, can have an indirect effect on insomnia through emotion regulation. The statistical study population and correlational nature of this study are the limitations of the present study. Therefore, Examining the proposed model in the other population and the application of longitudinal study are suggested. In sum,

from findings of the current study it is concluded that interpersonal, personality and emotional-cognitive factors have important roles in explanation of insomnia. So their roles should be considered in prevention, diagnosis and treatment of insomnia.

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