

## The Causal Relationship of Temperament and Character Dimension with Internalizing and Externalizing Symptoms via Mediation of Cognitive Emotion Regulation in Adolescents

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### Introduction

Adolescence encompasses a developmental period with significant neurobiological changes, often associated with intense emotions or feelings, reward-seeking, and risk-taking. While bringing new experiences, these changes also present risks (Liew et al., 2023). Clinical psychologists usually divide the emotional and behavioral disorders of adolescents into two categories: internal and externalized disorders. Internalizing disorders are over-controlled symptoms directed inward, and externalizing disorders are under-controlled symptoms directed outward (Ganji, 2022). Personality dimensions are the factors that play a fundamental role in the etiology of internalized (Ahola et al., 2023) and externalizing symptoms (Abdolmohammadi et al., 2021). According to Cloninger's psychobiological model, personality comprises two dimensions: temperament and character. The temperament dimensions are hereditary and are stable throughout life and in the later stages of individuals.

In contrast, the character dimension includes self-conscious emotions that develop throughout life (Cloninger et al., 1993). On the other hand, one of the factors affecting emotional-behavioral disorders is the presence of some kind of disorder in emotional regulation (Fernandes et al., 2023). Zagaria et

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al. (2023) found that maladaptive cognitive emotion regulation strategies are associated with emotional behavioral disorders and adaptive strategies are associated with emotional-behavioral health. Therefore, the main of the present study is to investigate the mediating role of positive and negative cognitive emotion regulation strategies in the relationship between personality traits and the occurrence of internalizing and externalizing symptoms in adolescent boys and girls in Andimeshk City.

### **Method**

The research method was a correlational structural equation model. The statistical population comprised all the male and female students in the second grade of high school in Andimeshk City in 2020-2021. A sample of 326 people (165 girls and 161 boys) were selected using the multi-stage cluster sampling method and answered the Youth Self-Report questionnaire, which contains 112 items. The test-retest reliability of this questionnaire was reported to be 0.82, and the internal consistency of each subscale was reported between 0.55 and 0.75 (Aschenbach & Rescorella, 2001). The temperament and Character Inventory contains 125 items and measures four dimensions of temperament (novelty seeking, harm avoidance, reward Dependence, Persistence) and three dimensions of character (Self-directedness, Cooperativeness, self-transcendence). Reliability was obtained for temperament 0.77 and character 0.81 (Cloninger et al., 1994), and the Cognitive emotion regulation questionnaire contains 36 items. The reliability of this questionnaire was for positive, negative, and total strategies 0.91, 0.87, and 0.93, respectively. (Garnefski et al., 2001). Data were analyzed using Pearson's correlation coefficients and structural equation model in SPSS24, AMOS/18 software, and the Sobet test.

### **Results**

The results showed that for both indirect paths of the effect of temperament and character on internalized and externalized symptoms through positive and negative cognitive emotion regulation, zero is outside the confidence interval (lower limit and upper limit), and the obtained significant level is less than 0.05. Also, for both indirect paths of the effect of temperament and character on externalized symptoms through positive and negative cognitive emotion regulation, zero is outside the confidence interval (lower limit and upper limit), and the obtained significant level is less than 0.05. Therefore, two indirect effects are significant and confirmed.

### **Discussion**

The results of the present study showed that positive and negative

strategies of cognitive emotion regulation mediate the relationship between temperament and character on the internalized and externalized symptoms. An individual's choice of cognitive emotion regulation strategies and their regulatory effectiveness depends on their traits. Positive and negative strategies of cognitive emotion regulation, due to their adaptive and maladaptive nature, each lead to the intensification or suppression of negative emotion or the increase of positive emotions, which, in turn, leads to conscious and unconscious emotional, behavioral, and cognitive reactions in response to stressful environmental stimuli, depending on personality dimensions, and as a result, will make the adolescent susceptible to internalized and externalized symptoms. Overall, considering the findings of this study, it is recommended that clinics and educational counseling centers use the findings of this

Zagaría et al. (2023) found that maladaptive cognitive emotion regulation strategies are associated with emotional behavioral disorders and adaptive strategies are associated with emotional-behavioral health. Therefore, the main of the present study is to investigate the mediating role of positive and negative cognitive emotion regulation strategies in the relationship between personality traits and the occurrence of internalizing and externalizing symptoms in adolescents in Andimeshk City.

**Keywords:** Internalizing/Externalizing, cognitive emotion regulation, Internalizing/Externalizing, Temperament and character

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**Author Contributions:** The first author was in charge of developing the research plan, the process of gathering, analyzing and interpreting the findings and writing the text of the article. The second author, as a supervisor, was responsible for the overall supervision and strategy of the research process and for compiling and finalizing the corrections of the article. Third author were done the conclusion of the findings and the elaboration and interpretation jointly. All authors have reviewed and approved the final version of the article.

**Acknowledgments:** The authors express their gratitude to all those who have been effective in completing this research with criticism and advice.

**Conflicts of Interest:** The authors acknowledge that there is no conflict of interest in this article.

**Funding:** This article has not received financial support.

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