

Original Article

Prediction of Bulimia Nervosa Based on Personality Traits with the Mediation of Emotional Intelligence in Nurses

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Extended Abstract

Background and Objectives

Bulimia nervosa, a psychological eating disorder characterized by cycles of overeating followed by purging, is increasingly prevalent among healthcare professionals, including nurses. Due to the high emotional and physical demands of nursing, many nurses are vulnerable to maladaptive coping mechanisms, such as disordered eating. Personality traits, particularly those described in the Five-Factor Model (neuroticism, extraversion, openness, agreeableness, and conscientiousness), are recognized as psychological predispositions influencing behavior and emotional regulation. Additionally, emotional intelligence (EI)—the ability to recognize, manage, and use emotions constructively—has been shown to mediate responses to stress and promote adaptive coping. However, the mechanisms by which personality traits influence bulimia nervosa, particularly through emotional intelligence, are underexplored in clinical populations such as nurses. This study aimed to model the predictive relationship between personality traits and bulimia nervosa, with emotional intelligence as a mediating variable, using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Materials and Methods

This descriptive-correlational research used PLS-SEM to analyze the proposed conceptual model. The study population comprised all nurses employed in medical sciences hospitals in Tabriz, Iran, in 2022. A total of 335 nurses were selected using stratified random sampling, based on demographic diversity. Data collection was conducted via an online survey using validated instruments: the NEO Five-Factor Inventory (NEO-FFI, 60 items), the Binge Eating Scale (BES, 16 items), and the Schering Emotional Intelligence Questionnaire (33 items). Reliability and validity of the instruments were confirmed with Cronbach's alpha coefficients exceeding 0.74 for all subscales. Structural model adequacy was assessed using indicators such as Goodness of Fit (GOF) and Normed Fit Index (NFI). Sobel tests were used to evaluate indirect effects.

Results

The results indicated that four of the five personality traits (neuroticism, openness to experience, agreeableness, and conscientiousness) had significant direct effects on emotional intelligence, while extraversion did not. Neuroticism had the strongest negative effect on emotional intelligence ($\beta = -0.63$, $t = 14.466$, $p < 0.01$). Emotional intelligence, in turn, had a significant negative effect on bulimia nervosa ($\beta = -0.314$, $t = 4.642$, $p < 0.01$), indicating that higher emotional intelligence is associated with lower levels of disordered eating.

Moreover, neuroticism and conscientiousness showed significant indirect effects on bulimia nervosa through emotional intelligence, with neuroticism accounting for 88.4% of its total effect mediated by EI. Openness and agreeableness also demonstrated significant indirect effects, while the mediating effect of emotional intelligence on the relationship between extraversion and bulimia nervosa was not significant.

In terms of direct effects on bulimia nervosa, extraversion ($\beta = -0.206$, $t = 2.846$), agreeableness ($\beta = 0.064$, $t = 1.977$), and conscientiousness ($\beta = -0.297$, $t = 4.186$) were significant. Interestingly, neuroticism and openness did not show significant direct effects on bulimia nervosa, suggesting their influence is primarily mediated through emotional intelligence.

The structural model demonstrated good overall fit ($GOF = 0.431$; $NFI = 0.828$). The coefficient of determination (R^2) for emotional intelligence was 0.604, indicating that 60.4% of its variance was explained by the five personality traits. For bulimia nervosa, the R^2 value was 0.693, suggesting that nearly 70% of its variance was explained by personality traits and emotional intelligence.

Discussion

This study highlights the critical mediating role of emotional intelligence in the relationship between personality traits and bulimia nervosa among nurses. Nurses scoring high in neuroticism are more likely to experience emotional instability, which may lead to emotional eating behaviors. However, high emotional intelligence can mitigate this risk by enabling better emotion regulation and stress management. Traits such as conscientiousness and openness appear to indirectly protect against disordered eating through their positive association with emotional intelligence.

The lack of a significant mediating effect for extraversion suggests that this trait might influence bulimic behaviors through other mechanisms, such as social support or external reinforcement, rather than internal emotional regulation. These findings are consistent with previous research indicating that emotional dysregulation and maladaptive coping styles are significant contributors to eating disorders.

Given the stressful and emotionally demanding nature of nursing, the ability to regulate emotions effectively is essential. Enhancing emotional intelligence through targeted interventions could serve as a preventive strategy against bulimia nervosa and other stress-related disorders.

Conclusion

This study provides empirical evidence for a structural model in which emotional intelligence mediates the effects of personality traits on bulimia nervosa in nurses. Interventions aiming to reduce bulimic symptoms in clinical populations should not only consider personality traits but also emphasize the development of emotional intelligence. Tailored psychological training for nurses focusing on emotional awareness, self-regulation, and interpersonal skills may reduce their susceptibility to maladaptive coping behaviors, including bulimia nervosa.

These findings contribute to the growing body of literature on the psychological predictors of eating disorders and underscore the importance of considering individual differences in personality and emotional functioning. Hospitals and health organizations may consider incorporating emotional intelligence training into nursing professional development programs to support mental health and prevent disordered eating behaviors.