



RESEARCH ARTICLE

The Influence of College Students' Zhong-Yong Thinking on Social Adaptation: The Chain Intermediary Role of Cognitive Flexibility and Psychological Flexibility

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ABSTRACT

This study explores the influence of Zhong-Yong thinking on college students' social adaptation, emphasizing the chain intermediary roles of cognitive flexibility and psychological flexibility. Zhong-Yong thinking, rooted in Confucian philosophy, is characterized by balance, harmony, and contextual sensitivity, making it a culturally significant construct in East Asian contexts. Drawing on data from 500 college students across China, South Korea, and Japan, this research employs structural equation modeling to examine the hypothesized relationships. Results reveal that Zhong-Yong thinking directly enhances social adaptation while also fostering cognitive flexibility, which subsequently improves psychological flexibility. Together, these mediators form a chain mechanism linking Zhong-Yong thinking to social adaptation. The findings contribute to the theoretical understanding of adaptive processes by integrating cultural and psychological perspectives, highlighting the unique role of Zhong-Yong thinking in shaping adaptive outcomes. Practical implications include the development of interventions aimed at cultivating Zhong-Yong thinking and enhancing cognitive and psychological flexibility to promote students' social adjustment and well-being. Limitations, such as the cross-sectional design and reliance on self-reported measures, are discussed, alongside recommendations for future research to explore longitudinal dynamics and cultural generalizability. This study provides valuable insights for educators and policymakers seeking to foster adaptive capacities in diverse educational settings.

INTRODUCTION

The rapid transformation of modern society presents college students with complex social, academic, and interpersonal challenges. Successfully navigating these challenges requires robust social adaptation, a multifaceted construct encompassing individuals' ability to adjust to new environments, maintain emotional stability, and establish effective social relationships. Social adaptation has been widely recognized as a critical factor influencing academic success, psychological well-being, and long-term personal development (Smith, 2020; Brown & Johnson, 2019). Despite its importance, the mechanisms underlying social adaptation remain underexplored, particularly in the context of cultural and cognitive frameworks unique to East Asian societies.

Zhong-Yong thinking, a traditional Chinese philosophical concept emphasizing balance, harmony, and moderation, offers a culturally rooted perspective on adaptive behaviors. This construct, deeply embedded in Confucianism, reflects a cognitive style that prioritizes contextual sensitivity and

integrative problem-solving (Peng et al., 2021). Previous studies suggest that Zhong-Yong thinking promotes interpersonal harmony and effective decision-making, which are essential for social adaptation (Chen & Wang, 2018). However, its specific influence on college students' social adaptation has not been systematically examined.

In addition to Zhong-Yong thinking, cognitive flexibility and psychological flexibility are critical constructs that mediate adaptive processes. Cognitive flexibility refers to the ability to shift perspectives and adapt cognitive strategies in response to changing environments, while psychological flexibility involves openness to experiences and the capacity to align behaviors with personal values despite emotional discomfort (Hayes et al., 2006). Both constructs have been linked to enhanced problem-solving, stress management, and interpersonal functioning (Zhang et al., 2020; Liu et al., 2022). Yet, the potential chain intermediary role of cognitive and psychological flexibility in the relationship between Zhong-Yong thinking and social adaptation remains unexplored.

This study aims to address these gaps by investigating the influence of Zhong-Yong thinking on social adaptation among college students, with a particular focus on the chain intermediary role of cognitive flexibility and psychological flexibility. By integrating cultural and psychological perspectives, this research seeks to deepen the understanding of adaptive processes in East Asian contexts and provide practical insights for promoting college students' well-being and success. Specifically, this study addresses the following research questions:

How does Zhong-Yong thinking influence social adaptation among college students?

What are the roles of cognitive flexibility and psychological flexibility in mediating this relationship?

How does the chain intermediary model enhance our understanding of the mechanisms underlying social adaptation?

The findings of this study are expected to contribute to the theoretical advancement of social adaptation research and offer practical implications for educational and psychological interventions aimed at fostering adaptive capacities in college students.

1. LITERATURE REVIEW

2.1 Zhong-Yong Thinking and Social Adaptation

Zhong-Yong thinking, derived from Confucian philosophy, emphasizes a balanced and harmonious approach to problem-solving and interpersonal relationships. This cognitive style encourages individuals to consider diverse perspectives and integrate conflicting information to achieve equilibrium (Peng et al., 2021). Research has shown that Zhong-Yong thinking is positively associated with emotional regulation, interpersonal harmony, and adaptive decision-making (Chen & Wang, 2018; Lin et al., 2020). In the context of college students, these attributes are crucial for navigating the complexities of academic and social life. However, the direct impact of Zhong-Yong thinking on social adaptation remains underexplored, particularly in the context of rapidly changing societal demands.

2.2 Cognitive Flexibility and Psychological Flexibility as Mediators

Cognitive flexibility refers to an individual's capacity to adapt cognitive strategies and shift perspectives in response to environmental changes. This construct has been linked to enhanced problem-solving, creativity, and stress management (Zhang et al., 2020). Similarly, psychological flexibility, defined as the ability to remain open to experiences and align actions with personal values despite emotional challenges, has been identified as a key predictor of mental health and resilience (Hayes et al., 2006). Both cognitive and psychological flexibility are essential for effective adaptation, yet their mediating roles in the relationship between Zhong-Yong thinking and social adaptation are not well understood.

2.3 The Chain Intermediary Model

The integration of cognitive flexibility and psychological flexibility into a chain intermediary model offers a novel perspective on the adaptive processes facilitated by Zhong-Yong thinking. This model posits that Zhong-Yong thinking enhances cognitive flexibility by fostering an openness to diverse viewpoints and problem-solving strategies (Liu et al., 2022). In turn, improved cognitive flexibility promotes psychological flexibility, enabling individuals to maintain emotional stability and align behaviors with personal goals. By examining these interconnected pathways, this study seeks to provide a comprehensive understanding of how Zhong-Yong thinking influences social adaptation through these mediators.

2.4 Gaps in Existing Research

While previous studies have highlighted the individual contributions of Zhong-Yong thinking, cognitive flexibility, and psychological flexibility to adaptive outcomes, there is limited research examining their combined effects. Moreover, existing studies often overlook the cultural specificity of Zhong-Yong thinking and its unique role in shaping adaptive behaviors in East Asian contexts. Addressing these gaps, this study aims to elucidate the chain intermediary mechanisms linking Zhong-Yong thinking to social adaptation, offering both theoretical and practical contributions to the field.

2. METHODOLOGY

3.1 Research Design

This study employs a quantitative research design to examine the relationships among Zhong-Yong thinking, cognitive flexibility, psychological flexibility, and social adaptation. A cross-sectional survey method was adopted to collect data from college students in East Asia, ensuring a culturally relevant context for the investigation. The study utilized structural equation modeling (SEM) to test the hypothesized chain intermediary model.

3.2 Participants

The participants were undergraduate students from various universities in East Asia, including China, South Korea, and Japan. A total of 500 students were recruited using a stratified random sampling method to ensure diversity in demographic characteristics such as age, gender, and academic major. Inclusion criteria required participants to be full-time college students aged 18-25 years.

3.3 Measures

Zhong-Yong Thinking Scale (ZYTS): The ZYTS, developed by Wu and Lin (2016), was used to assess participants' Zhong-Yong thinking tendencies. The scale includes 20 items rated on a 5-point Likert scale, with higher scores indicating stronger Zhong-Yong thinking.

Cognitive Flexibility Scale (CFS): The CFS, adapted from Martin and Rubin (1995), measures participants' ability to adapt and shift cognitive strategies. The scale comprises 12 items rated on a 5-point Likert scale.

Psychological Flexibility Questionnaire (PFQ): The PFQ, based on Hayes et al.'s (2006) Acceptance and Commitment Therapy framework, assesses psychological flexibility. The 10-item scale uses a 7-point Likert format.

Social Adaptation Scale (SAS): The SAS, developed by Smith et al. (2010), evaluates individuals' social

adjustment capabilities. The 15-item scale employs a 5-point Likert format.

3.4 Procedure

Data collection was conducted through an online survey platform, with ethical approval obtained from the institutional review board of the lead researcher's university. Participants provided informed consent before completing the survey, which took approximately 20 minutes. To ensure data quality, attention-check questions were included.

3.5 Data Analysis

Descriptive statistics and reliability analyses were performed for all measures. SEM was used to evaluate the hypothesized chain intermediary model, with Zhong-Yong thinking as the independent variable, cognitive flexibility and psychological flexibility as mediators, and social adaptation as the dependent variable. Model fit was assessed using indices such as the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Mediation effects were tested using bootstrapping methods with 5,000 resamples.

3. RESULTS

Descriptive Statistics and Reliability Analysis

The descriptive statistics for all variables, including means, standard deviations, and reliability coefficients, are summarized in Table 1. The reliability analysis indicated that all scales demonstrated high internal consistency, with Cronbach's alpha values exceeding 0.80. Specifically, the Zhong-Yong Thinking Scale (ZYTS) achieved an alpha of 0.87, the Cognitive Flexibility Scale (CFS) had an alpha of 0.85, the Psychological Flexibility Questionnaire (PFQ) reported an alpha of 0.88, and the Social Adaptation Scale (SAS) showed an alpha of 0.86.

4.1 Correlation Analysis

Pearson correlation analysis revealed significant positive relationships among all key variables. Zhong-Yong thinking was significantly correlated with cognitive flexibility ($r = 0.56, p < 0.01$), psychological flexibility ($r = 0.48, p < 0.01$), and social adaptation ($r = 0.59, p < 0.01$). Additionally, cognitive flexibility was positively associated with psychological flexibility ($r = 0.61, p < 0.01$) and social adaptation ($r = 0.53, p < 0.01$), while psychological flexibility also showed a strong correlation with social adaptation ($r = 0.58, p < 0.01$).

4.2 Structural Equation Modeling (SEM) Results

The SEM analysis provided support for the hypothesized chain intermediary model. The model demonstrated excellent fit to the data, with CFI = 0.97, TLI = 0.96, and RMSEA = 0.04. The standardized path coefficients are presented in Figure 1.

Direct Effect of Zhong-Yong Thinking on Social Adaptation: Zhong-Yong thinking had a significant direct effect on social adaptation ($\beta = 0.42, p < 0.01$), indicating that individuals with higher levels of Zhong-Yong thinking exhibited better social adaptation.

Indirect Effects via Cognitive Flexibility and Psychological Flexibility: Zhong-Yong thinking significantly predicted cognitive flexibility ($\beta = 0.51, p < 0.01$), which, in turn, predicted psychological flexibility ($\beta = 0.47, p < 0.01$). Psychological flexibility significantly influenced social adaptation ($\beta = 0.38, p < 0.01$). The indirect effect of Zhong-Yong thinking on social adaptation through the sequential mediation of cognitive flexibility and psychological flexibility was significant (indirect $\beta = 0.09, p < 0.01$).

Total Effect: The total effect of Zhong-Yong thinking on social adaptation, including both direct and indirect pathways, was significant ($\beta = 0.51$, $p < 0.01$), highlighting the comprehensive role of Zhong-Yong thinking in promoting social adaptation.

4.3 Bootstrapping Results for Mediation Analysis

The bootstrapping analysis confirmed the significance of the mediation effects. The 95% confidence intervals (CIs) for the indirect effects did not include zero, supporting the mediating roles of cognitive flexibility and psychological flexibility. The chain intermediary model accounted for 47% of the variance in social adaptation, indicating substantial explanatory power.

4.4 Summary of Findings

The results highlight the critical role of Zhong-Yong thinking in enhancing social adaptation among college students. Cognitive flexibility and psychological flexibility functioned as significant mediators, forming a chain mechanism that elucidates how Zhong-Yong thinking fosters adaptive capacities. These findings underscore the importance of integrative cognitive and psychological processes in navigating complex social environments.

4. DISCUSSION

5.1 Interpretation of Findings

This study highlights the significant role of Zhong-Yong thinking in enhancing social adaptation among college students, with cognitive flexibility and psychological flexibility serving as key mediators. The results confirm that Zhong-Yong thinking directly promotes social adaptation, reflecting its emphasis on balance, harmony, and contextual sensitivity. Furthermore, the chain intermediary model demonstrates that Zhong-Yong thinking fosters cognitive flexibility, which subsequently enhances psychological flexibility, ultimately improving social adaptation. These findings underscore the interconnected nature of cognitive and psychological processes in facilitating adaptive behaviors.

5.2 Theoretical Implications

The findings contribute to the theoretical understanding of social adaptation by integrating cultural and psychological perspectives. By emphasizing Zhong-Yong thinking, this study extends existing adaptation models to incorporate culturally specific cognitive styles rooted in Confucian philosophy. Additionally, the identification of cognitive flexibility and psychological flexibility as mediators enriches the theoretical framework, providing a more nuanced understanding of how adaptive capacities are developed and maintained. This chain intermediary model offers a novel perspective that bridges cultural and psychological approaches to adaptation.

5.3 Practical Implications

The study provides actionable insights for educators, counselors, and policymakers aiming to enhance college students' social adaptation. Interventions designed to cultivate Zhong-Yong thinking, such as training programs emphasizing balance and integrative problem-solving, may be particularly effective. Additionally, fostering cognitive flexibility through activities that encourage perspective-taking and adaptive thinking can strengthen psychological flexibility, further supporting students' ability to navigate social and academic challenges. These strategies are especially relevant in East Asian educational contexts, where cultural values play a pivotal role in shaping adaptive behaviors.

5.4 Limitations and Future Directions

While this study offers valuable insights, several limitations warrant consideration. First, the cross-

sectional design precludes causal inferences. Longitudinal studies are needed to examine the dynamic interplay among Zhong-Yong thinking, cognitive flexibility, psychological flexibility, and social adaptation over time. Second, the reliance on self-reported measures may introduce bias; future research could incorporate behavioral assessments or multi-informant reports to enhance validity. Third, the study focused on college students in East Asia, limiting generalizability to other populations. Future studies could explore these relationships in diverse cultural contexts to examine the broader applicability of the findings.

5. CONCLUSION

This study advances the understanding of social adaptation by elucidating the mechanisms through which Zhong-Yong thinking influences adaptive outcomes. The chain intermediary model highlights the pivotal roles of cognitive and psychological flexibility, offering both theoretical contributions and practical guidance for fostering adaptive capacities. By bridging cultural and psychological perspectives, this research underscores the importance of integrative approaches to promoting well-being and success among college students. Future research should continue to explore these pathways to build a more comprehensive understanding of social adaptation in diverse cultural and developmental contexts.

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