

POSTER

MURRAY'S SYSTEM OF NEEDS AND THE BIG FIVE PERSONALITY TRAITS: USING EXPLORATORY STRUCTURAL EQUATION MODELING TO EVALUATE THEIR RELATIONSHIP

Anna Beatriz Gomes^{1,2*}, Luis Anunciação¹, Louise Marques¹, Christopher Murray³

¹Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil

²University of Bologna, Bologna, Italy

³University of Oregon, Eugene, USA

*aannagomes@gmail.com

ABSTRACT

Personality assessment plays a central role in multiple sectors in Brazil, including education, workforce selection, and transportation. Among the most commonly used tools is the Personality Factor Inventory (PFI), grounded in Murray's system of needs—a theory that emphasizes motivational drives potentially linked to evolved psychological mechanisms. However, despite its widespread use, the structure of the PFI aligns only partially with the Big Five model, the dominant theoretical framework for personality research, including cross-cultural and evolutionary studies. This theoretical gap presents practical and conceptual challenges, especially for professionals and researchers aiming to integrate personality assessment with evolutionary-informed models of individual differences. In this study, we examined the extent to which Murray's need-based personality framework can be integrated within the Big Five structure using Exploratory Structural Equation Modeling and gender-based invariance testing. Data were drawn from a large Brazilian sample ($N = 272,845$; 56.2% men; $M \text{ age} = 21.74 \pm 15.24$) who completed the PFI. Cross-validation with random subsamples supported the robustness of the results. We found good model fit, consistent reliability, and scalar/strong invariance across gender. Importantly, we identified a mapping of Murray's motivational factors onto the five-factor model, suggesting that evolved needs and contemporary trait theories may be more compatible than previously assumed. These findings offer a promising step toward integrating motivational and trait-based models of personality and carry implications for both applied settings and evolutionary approaches to personality structure.