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Adaptation of the Runco Ideational Behavior Scale Into Turkish: A Confirmatory Factor Analysis and Rasch Study

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In the present study, two commonly used versions (19-item and 23-item versions) of the Runco Ideational Behavior Scale (RIBS) were adapted into Turkish. The analyses were carried out using 2,529 responses collected from high school ($n = 1,091$), undergraduate ($n = 735$), and graduate ($n = 703$) students. Confirmatory factor analyses and partial credit model analyses were conducted to examine the internal structures and psychometric properties of the scales. Measurement invariance and differential item functioning analyses were performed for gender and educational level. Scores on both versions of the RIBS were highly reliable based on Cronbach's α and McDonald's ω coefficients. The confirmatory factor analyses provided evidence of a single-factor structure for the 19-item version and a two-factor structure for the 23-item version. The partial credit model analyses supported the unidimensional structure for the 19-item version and the two-dimensional structure for the 23-item version. The analyses showed that the psychometric properties of both versions were good with regard to factor loadings, item fit, item difficulty, item discrimination, and item as well as person reliability. Strong evidence of measurement invariances for gender and educational level was obtained for both versions of the RIBS. However, Item 7 on the 19-item version exhibited a large differential item functioning for educational level. Our findings suggest that the overwhelming majority of the items on both versions of the RIBS have acceptable qualities for measuring ideation in Turkish culture.

Keywords: Runco Ideational Behavior Scale, confirmatory factor analysis, partial credit model, measurement invariance, differential item functioning

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Creativity affects human life in various fields (e.g., science, business, and education) and in various ways. For instance, in science, creativity is a driving force in scientific explorations, as it propels groundbreaking discoveries. In business, creativity is regarded as the most important quality of a leader and an executive (Berman & Korsten, 2010). In education, fostering creativity allows students to engage in the most advanced level of learning experiences based on Bloom's revised taxonomy (Anderson & Krathwohl, 2001). Beyond its practical applications, creativity supports mental health and increases a sense of well-being by allowing individuals to express themselves (Tang et al., 2021; T. A. Wright & Walton, 2003).

Researchers argue that creativity involves the generation of original and useful outputs (Barron, 1955; Csikszentmihalyi, 1996; Funke, 2009; O'Quin & Besemer, 1999; Runco & Jaeger, 2012; Simonton, 2018). Creative outputs take many forms and generally refer to concrete or observable products, such as paintings, books, and dance moves. However, creative outputs are not solely confined to tangible products. According to Runco et al. (2001), "ideas can [also] be treated as the products of original, divergent, and even creative thinking" (p. 394).

Creativity manifests itself in two distinct but related forms. On one side lies the notion of creative performance; on the other side resides the concept of creative potential (Guilford, 1966; Hinton, 1968; Runco, 2010). Creative performance is observable and characterized by the manifestation of products; while creative potential is latent and associated with the capacity of an individual to exhibit creative performance (Guilford, 1966). Essentially, creative performance is the practical application of creative potential situated within a certain context (Lubart et al., 2013).

Creative potential comprises a multitude of personal factors, including "motivational, temperamental, and aptitudinal" factors (Guilford, 1966, p. 186). Aptitudinal factors refer to two major skill sets: convergent production and divergent production (Guilford, 1962). Convergent production (i.e., convergent thinking) skills allow individuals to refine ideas and reach an optimal result (Runco, 2004). On the other hand, divergent production (i.e., divergent thinking) skills enable individuals to consider alternative possibilities and generate various ideas to a given situation (Guilford, 1962).

Ideation

One of the divergent thinking skills is that of ideation (Guilford, 1956, 1966). Ideation refers to the process that leads individuals to develop and generate ideas (Guilford, 1966; Runco et al., 2001, 2014). Therefore, ideation acts as a precursor to creative

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