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Examining the Psychometrics Properties of Two Prominent Athlete Leadership Questionnaires using Exploratory Structural Equation Modeling

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Examining the Psychometrics Properties of Two Prominent Athlete Leadership Questionnaires using Exploratory Structural Equation Modeling

Cross-sectional research on athlete leadership has utilized questionnaires from other fields, including the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) and the Differentiated Transformational Leadership Inventory (DTLI; Callow et al., 2009). There has been discussion in the literature regarding the validity of these modified inventories for measuring athlete leadership behaviours (Loughead, 2017). Using a sample of 680 athletes from various sports, we explored and confirmed the factorial structure, internal consistency, and concurrent validity of the LSS and DTLI. Using Exploratory Structural Equation Modeling (ESEM), the results supported a five dimension 40-item inventory for the LSS and a seven dimension 27-item measure for the DTLI. The McDonald omega (ω) coefficient was calculated with the LSS dimensions of training and instruction ($\omega = 0.90$), democratic behaviour ($\omega = 0.85$), autocratic behaviour ($\omega = 0.81$), social support ($\omega = 0.82$), and positive feedback ($\omega = 0.84$) along with the DTLI dimensions of individual consideration ($\omega = 0.71$), inspirational motivation ($\omega = 0.86$), intellectual stimulation ($\omega = 0.84$), fostering acceptance of group roles ($\omega = 0.81$), high performance expectations ($\omega = 0.81$), appropriate role modeling ($\omega = 0.78$), and contingent reward ($\omega = 0.85$) being reliable measures. Concurrent validity was supported with the LSS behaviours of training and instruction ($\beta = 0.38$), autocratic behaviour ($\beta = -0.12$), social support ($\beta = 0.23$), and positive feedback ($\beta = 0.13$) accounting for 44% of the unique variance in cohesion. The DTLI behaviours of appropriate role modeling ($\beta = 0.40$), inspirational motivation ($\beta = 0.20$), contingent reward ($\beta = 0.17$), and intellectual stimulation ($\beta = 0.16$) accounted for 56% of the total variance in cohesion. The results provide evidence for the validity and reliability of the LSS and DTLI for measuring athlete leadership behaviours and the usefulness of ESEM for analyzing data from multidimensional scales (Asparouhov & Muthén, 2009).