The Causality Orientations Scale for Physical Activity: Development, Validation and Initial Application among Chinese Adults

Abstract

Despite the compelling evidence that physical activity, especially regular physical activity plays a key role in enhancing health and well-being, many people remain physically inactive. To promote physical activity among the general adult population, identifying possible correlates is essential. In this regard, self-determination theory (SDT) with its motivational perspective may provide useful insight. This research examined the collective effect of the sub-theories of SDT (causality orientations theory, basic psychological needs theory, and organismic integration theory) on physical activity behavior prediction among Chinese adults. Given the lack of a measure for causality orientations in the context of physical activity behavior, an attempt was firstly made to develop and validate a psychometrically sound tool, namely the causality orientations scale for physical activity (COS-PA). The COS-PA was developed and validated in multiple phases. First, a scenario/item pool was created from multiple sources. Second, the pool was subjected to face validity, content validity, clarity, readability and comprehensibility appraisal. Adjustments were then made to finalize the initial scale. Third, the factorial, convergent and discriminant validity of the initial COS-PA were assessed via a series of exploratory factor analyses (EFAs), and correlated-trait, correlated-uniqueness analysis in the multi-trait, multi-method approach with two independent samples. The nomological validity of the scale was assessed by correlation analysis with theoretically linked constructs. In addition, the potential effect of social desirability bias of participants’ response to the COS-PA was checked. Fourth, the COS-PA’s reliability was evaluated using multiple methods, including Cronbach’s alpha coefficient, composite reliability and test-retest reliability. Subsequently, the proposed SDT process model (established based on the tenet of SDT and previous findings) was examined for physical activity prediction in an independent sample. Overall, the COS-PA exhibited sufficient validity and reliability in the multi-phasic tests. The proposed SDT process model, describing a motivational sequence whereby causality orientations and perceived autonomy support independently predict basic psychological needs satisfaction and behavioral regulation, which in turn predicts PA behavior was generally supported. Moreover, potential indirect effects in the SDT model were examined. Although scale validation is an ongoing process, these findings provide evidence for the COS-PA’s adequate psychometric properties and value for future use. Furthermore, the findings lead to a deeper understanding of the explanatory efficacy of the macro-SDT framework (i.e. the SDT process model) for physical activity prediction among the Chinese population. The findings highlight the positive roles of autonomy causality orientation and perceived autonomy support for basic psychological needs satisfaction, self-determined behavioral regulation and physical activity behavior. Moreover, the importance of fostering perceived autonomy support as a modifiable variable for engagement in physical activity is underlined.

*** All are welcome ***