



## Psychological need satisfaction and thwarting: A test of Basic Psychological Needs Theory in physical activity contexts<sup>☆</sup>



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### ABSTRACT

**Objectives:** To test Basic Psychological Needs Theory (BPNT; Deci & Ryan, 2002) to determine if psychological need thwarting experienced when physically active contributes to the understanding of well-being and ill-being.

**Design/method:** Participants ( $N = 155$ , 67.70% female,  $M_{\text{age}} = 37.46$  years;  $SD_{\text{age}} = 19.89$  years) completed assessments of psychological need satisfaction and thwarting, subjective vitality and positive/negative affect during separate testing sessions separated by 6 months.

**Results:** Scores from the modified version of the Psychological Need Thwarting Scale (PNTS-PA; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011) demonstrated discriminant evidence of validity, evidence of internal structure and minimal error variance. Changes in psychological need satisfaction positively predicted positive affect ( $R^2 = .16$ ,  $p < .05$ ), subjective vitality ( $R^2 = .13$ ,  $p < .05$ ) and negatively predicted negative affect ( $R^2 = .12$ ,  $p < .05$ ). Additional regression analyses revealed that changes in psychological need thwarting predicted negative affect ( $\Delta R^2 = .11$ ,  $p < .05$ ), but not positive affect ( $\Delta R^2 = .01$ ,  $p > .05$ ) or subjective vitality ( $\Delta R^2 = .04$ ,  $p > .05$ ) beyond contributions made by psychological need satisfaction.

**Conclusions:** Overall, these results extend the potential utility of the PNTS-PA as an instrument for use with BPNT beyond sport and support Deci and Ryan's (2002) contentions regarding the critical role of psychological need thwarting.

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### Introduction

Basic Psychological Needs Theory (BPNT; Deci & Ryan, 2002) holds considerable appeal for understanding the relationship between the social contextual environment and a person's well-being and ill-being. Within BPNT, Deci and Ryan posit that humans are active, growth-oriented organisms who strive for opportunities to fulfill key psychological needs. When these key psychological needs

are fulfilled, optimal psychological well-being should ensue. While researchers in sport and exercise psychology have tested BPNT in terms of well-being (Adie, Duda, & Ntoumanis, 2012; Gunnell, Mack, Wilson, & Adachi, 2011; Wilson, Longley, Muon, Rodgers, & Murray, 2006), very few investigations have examined the undermining effect of psychological need thwarting (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). Deci and Ryan (2000) suggest that persistent thwarting of innate psychological needs has the potential to lead to a host of negative outcomes such as compensatory activity or need substitutes, non-self-determined regulatory styles and rigid behavior. The primary aim of this paper is to test BPNT to determine if psychological need thwarting in physical activity contributes to the understanding of well-being and ill-being.

As conceptualized in BPNT, humans have fundamental psychological needs for competence, autonomy and relatedness (Deci & Ryan, 2002). Competence refers to a feeling that one can successfully complete optimally challenging tasks (Deci & Ryan). Autonomy refers to a sense of volition over behavior or feelings of self-governance, whereas relatedness refers to experiences of

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meaningful connections or belonging with others (Deci & Ryan). According to Deci and Ryan, fulfillment of these key psychological needs within a given context contributes to optimal growth, integrity and well-being whereas psychological need thwarting will lead to greater fragmentation and ill-being (Deci & Ryan).

Investigators working with BPNT have found evidence to support Deci and Ryan's (2002) assertions regarding psychological need satisfaction and well-being across a broad spectrum of physical activity contexts (see Ng et al., 2012; Ryan, Williams, Patrick, & Deci, 2009; Wilson, Mack, Gunnell, Oster, & Gregson, 2008). Cross-sectional (McDonough & Crocker, 2007; Sebire, Standage, & Vansteenkiste, 2009) and prospective (Rahman, Thøgersen-Ntoumani, Thatcher, & Doust, 2011; Wilson, Longley, et al., 2006) investigations have generally revealed that perceived psychological need satisfaction is positively associated with well-being and negatively associated with ill-being. Finally, researchers have supported theoretical tenets that psychological needs experienced in physical activity have an overall direct relationship on well-being (Gunnell et al., 2011; Mack et al., 2012). Despite these findings, some researchers have noted mixed results with regard to the unique contribution of each psychological need (Gunnell et al., 2011; Mack et al., 2012; McDonough & Crocker, 2007). Together, psychological need satisfaction appears to contribute to well-being, yet further research is needed to understand why certain psychological need satisfactions often emerge as independent contributors when each psychological need is expected to contribute independently to well-being (Deci & Ryan, 2000; Sheldon, Elliot, Kim, & Kasser, 2001). It is possible that in different contexts (e.g., physical activity or exercise) fulfillment of certain psychological needs may play a more distal or salient role, as has been suggested by previous researchers (Deci & Ryan, 2000; McDonough & Crocker, 2007). While the role of perceived need satisfaction has been tested, few investigators have tested assertions made by Deci and Ryan within BPNT about psychological need thwarting in sport or exercise contexts.

According to Ryan and Deci (2000), the framework set forth within BPNT addresses not only issues germane to personal growth and well-being, but also the "...undermining, alienating, and pathogenic effects of need thwarting contexts" (p. 319). Psychological need thwarting is conceptualized as "the perception that need satisfactions are being obstructed or actively frustrated within a given context" (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011, p. 5). Low scores on psychological need satisfaction may not indicate that needs are thwarted, but may suggest that an individual is unsatisfied with the degree to which needs are being met (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani). In other words, psychological need thwarting is concerned with an active process and not simply the lack of psychological need satisfaction. Competence thwarting occurs when a person is made to feel ineffective or is in an environment that is demeaning of their ability (Vansteenkiste, Niemiec, & Soenens, 2010). Autonomy thwarting is described as being in a controlling environment and relatedness thwarting occurs within cold and neglectful environments (Vansteenkiste et al., 2010). For example, a runner may not feel as though his/her psychological need for competence is being met if he/she does not feel effective in his/her running. Conversely, a runner may experience active need thwarting if his/her running partner is overly demeaning of his/her ability.

Until recently, there was no instrument available designed to measure psychological need thwarting in line with BPNT (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). Because such an instrument did not exist, many researchers simply equated lack of psychological need satisfaction with psychological need thwarting; however, researchers have documented concerns with using measures of psychological need satisfaction as

predictors of negative affect (McDonough & Crocker, 2007) because existing measures of psychological need satisfaction are measured with positively worded items (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). Supporting this contention, researchers in sport (Adie et al., 2012) and physical activity (Mack et al., 2012) noted that a lack of need satisfaction did not predict ill-being. To make sense of these aberrant findings, Bartholomew and colleagues (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011) argued that need satisfaction and need thwarting can co-occur in a given context and, over time, could differentially contribute to the prediction of negative outcomes. In other words, the anomalous finding reported in existing research could be attributable to not measuring active psychological need thwarting, and simply equating a lack of psychological need satisfaction with the presence of psychological need thwarting. In order to initiate a more detailed examination of psychological need thwarting, Bartholomew et al. developed the Psychological Need Thwarting Scale (PNTS; Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). The PNTS represents the first instrument designed within the framework of BPNT to capture feelings of active thwarting specific to competence, autonomy, and relatedness needs.

Since the development of the PNTS, investigators have been quick to examine the importance of psychological need thwarting in sport (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011; Belaguer et al., 2012; Mallison & Hill, 2011; Stebbings, Taylor, Spray, & Ntoumanis, 2012). Results of these investigations indicated that psychological need thwarting predicted emotional and physical exhaustion (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011), depression, disordered eating (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011) and burnout (Belaguer et al., 2012). Perfectionistic concerns have been associated with higher levels of psychological need thwarting in junior sport participants (Mallison & Hill, 2011). Daily fluctuations in psychological need satisfaction and thwarting predicted corresponding daily fluctuations in well-being and ill-being, respectively, in athletes (Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011). Psychological need thwarting in coaches has also been associated with ill-being (Stebbing et al., 2012). Furthermore, psychological need thwarting mediated the relationship between the social environment and ill-being (Belaguer et al., 2012). Collectively, results of these studies indicate that considering the role of psychological need thwarting in sport could further our understanding of the mechanisms contributing to ill-being beyond simply the lack of psychological need satisfaction, rendering further study of psychological need thwarting a viable avenue for research (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011).

### Justification for the proposed research

The purpose of this study was to test BPNT by examining if the concept of psychological need thwarting experienced when engaged in physical activity adds to the understanding of mechanisms that contribute to well-being and ill-being. An examination of existing literature yields at least three reasons justifying continued investigation in this area: (1) psychological need thwarting has not been directly examined in more general physical activity contexts, (2) it is unclear if examining psychological need thwarting enhances BPNT's predictive utility with reference to indices of ill-being and well-being, and (3) to determine the utility of the original PNTS items for assessing these psychological mechanisms in contexts other than sport.

The first justification for this research concerns the contextual domain of interest. To date, investigators examining psychological

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