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Age group differences and longitudinal changes in approach–avoidance sensitivity: Findings from an 8-year longitudinal study

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ABSTRACT

An increasing number of studies point to normative changes in personality occurring during adulthood. We examined age group differences and longitudinal changes in approach–avoidance sensitivities across adulthood using a population-based sample of younger, midlife, and older adults ($N = 7468$) assessed on three occasions over an 8 year interval. Younger adults reported higher approach sensitivity (assessed using BAS-Drive and BAS-Reward subscales) relative to midlife and older adults. Approach sensitivity tended to decline between Times 1 and 3 for all age groups. Cross-sectional age differences were not evident for avoidance sensitivity at Time 1 (assessed using the BIS); however there was evidence for different patterns of change in avoidance over time across the age groups. Results are discussed in the context of lifespan developmental perspectives on self-regulation of emotion and behaviour.

1. Introduction

Theories recognising approach and avoidance motivation as providing a basis for behaviour have a long history in psychology (see Carver, 2006; Elliot & Thrash, 2002). Approach motivation refers to aspects of cognition, emotion, and behaviour that characterise the desire to approach positive outcomes, whereas avoidance motivation describes processes instigated by the desire to avoid negative outcomes (e.g., Elliot & Thrash, 2002). Approach and avoidance are believed to reflect the operation of independent neurobiological systems (Gray, 1987) that underlie emotional reactions to cues of desirable and undesirable events or circumstances (Carver, 2006). The approach–avoidance distinction has also been hypothesised to provide a common link between different perspectives on personality. Extraversion, positive emotionality, and facilitation of behaviour/impulsivity are each thought to reflect underlying tendencies toward approach motivation. In contrast, neuroticism, negative emotionality, and inhibition of behaviour are thought to reflect underlying tendencies toward avoidance motivation (Carver, 2006; Carver & White, 1994; Elliot & Thrash, 2002).

In recent years personality researchers (e.g., Elliot & Thrash, 2002; Sherman, Mann, & Updegraff, 2006) have frequently operationalized individual differences in approach–avoidance using Carver and White's (1994) BIS (Behavioral Inhibition System)–BAS (Behavioral Activation System) scales. The BIS includes items reflecting sensitivity to punishment cues and is regarded as an indicator of avoidance sensitivity. The BAS includes three subscales that represent different aspects of approach-related behaviour and affect. The BAS Reward Responsiveness subscale represents sensitivity to positive outcomes (e.g., rewards and successes), whereas BAS Drive represents tendencies toward pursuit of self-focused appetitive goals. BAS Fun Seeking captures tendencies toward seeking out new experiences, and acting quickly in the pursuit of desired goals. We use the BIS, and the BAS Drive and BAS Reward Responsiveness subscales in the present study to examine possible developmental changes in approach–avoidance sensitivity in adulthood.

Lifespan perspectives on personality recognise the extent to which broad patterns of developmental change may arise from biological constraints, age-graded norms and role expectations, and culturally informed developmental tasks (McAdams & Olsen, 2010; Roberts & Mroczek, 2008). The ways in which individuals respond to these developmental influences is likely to be reflected in aspects of goal-related behaviour and motivation. We propose that approach motivation in particular could be subject to relatively normative patterns of developmental change over the lifespan. However we are not aware of studies to date that have examined developmental differences in approach–avoidance in adulthood. The goal of the present study was to examine age group differences and longitudinal changes in approach–avoidance tendencies in a large sample of younger (aged 20–24 years at Time 1), midlife

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(aged 40–44 years at Time 1) and older (aged 60–64 years at Time 1) adults assessed on three occasions over an 8-year interval.

2. Stability and change in approach motivation

Heckhausen, Wrosch, and Schulz (2010) motivational theory of lifespan development provides a theoretical basis for expecting developmental differences in approach sensitivity. The theory focuses on the role of the individual as an active agent in shaping development through processes of selection, pursuit, and disengagement from goals across changing life contexts. Different age-graded developmental tasks and priorities are believed to shape goal-directed behaviour. Early adulthood is characterised by achievement-focused goals (e.g., educational achievement, career establishment), whereas older age sees a decline in achievement orientation as biological (e.g., declining health) and societal influences (e.g., normative age graded structures for life course transitions such as parenthood and retirement) result in constraints on achievement-related functioning (Heckhausen & Schulz, 1995) . While the desire to exercise control over the environment (through *primary control* strategies) remains a strong motivating force across the life course, adults recognise that their capacities to exercise control will become reduced with advancing age. As a result, older adults increasingly adopt the use of flexible strategies such as adapting or disengaging from unattainable goals, and reinterpretation of failures (*secondary control*) as a means of maintaining and maximising developmental potential (Heckhausen et al., 2010).

Heckhausen et al.'s (2010) recognition of goal attainment as being both central to development, and subject to changing influences over the life course provides an insight into possible developmental changes in approach sensitivities. Personality researchers have emphasized the fundamental role of approach in instigating cognition, affect, and behaviour in the adoption and pursuit of achievement related goals concerned with establishing mastery of developmental tasks, and attaining task competence relative to others (cf. Elliot & McGregor, 2001; Elliot & Thrash, 2002). If autonomy-focused achievement goals tend to be most important in the context of emerging adulthood, approach motivation might be expected to be at its peak during this period. Indirect empirical support for an age-related decrease in achievement-related approach motivation is provided by several studies concerned with developmental aspects of self-regulation and goal-directed behaviour in adulthood. For example, research has shown a stronger developmental orientation toward growth (Ebner, Freund, & Baltes, 2006); greater appetitive arousal in response to emotion-eliciting stimuli (Keil & Freund, 2009); and a greater preference for autonomy, as opposed to generative interpersonal goals (Hoppmann & Blanchard-Fields, 2010) among younger, relative to older adults. Few studies have examined age differences in goal orientations in samples that included midlife adults. For many in midlife, this period represents one of peak functioning involving achievement-related responsibilities across multiple domains (e.g., Lachman, 2004). However goals during this time are also likely to become less autonomy-focused and more generative, as adults care for the needs of both children and ageing parents, and take on greater civic responsibility (e.g., McAdams & Olsen, 2010). Consequently, given the self-focused nature of approach motivation reflected in the BAS subscales, we expected midlife adults to report levels of approach motivation somewhere between those of younger and older adults.

Additional indirect evidence for possible age differences in approach motivation comes from a growing body of recent research concerned with patterns of developmental change in Big Five personality traits (Allemand, Zimprich, & Hertzog, 2007; Lucas & Donnellan, 2011; Roberts, Walton, & Viechtbauer, 2006). The evidence broadly points to increases in agreeableness, conscientiousness, and emotional stability (i.e., decreasing neuroticism) occuring between young adulthood and midlife (Caspi, Roberts, & Shiner, 2005; Roberts et al., 2006). These patterns of development have informed what has been referred to as the *maturity principle*; the idea that average increases in these characteristics are associated with the improved ability to fulfil adult roles around contributing in a productive way to society (Caspi et al., 2005). At a broad conceptual level, the findings related to developmental changes in the Big Five provide somewhat mixed implications for the development of hypotheses around possible developmental changes in approach motivation. Conscientiousness (which tends to increase from young adulthood to midlife) encompasses elements of task-focused goal adherence (Caspi et al., 2005) that might be expected to correlate positively with aspects of approach. However conscientiousnes also reflects tendencies toward high self-control, and low impulsivity that would be expected to correspond with lower approach sensitivity (Smits & Boeck, 2006).

The fact that aspects of approach sensitivity are likely to show different types of associations with several of the lower-order traits associated with conscientiousness may be reflected in the typically small and inconsistent associations between measures of approach and conscientiousness reported in several previous studies (Keiser & Ross, 2011; Mitchell et al., 2007; Seibert, Miller, Pryor, Reidy, & Zeichner, 2010; Smits & Boeck, 2006). However, these same studies have more consistently revealed negative associations between approach motivation and agreeableness (which also increases between young adulthood and midlife). For example, Smits and Boeck (2006) reported reliable negative associations between BAS Drive and agreeableness in independent samples of younger adults. This may reflect the extent to which BAS Drive represents tenacity in the pursuit of *self*-focused goals, rather than goals related to the needs of others (Smits & Boeck, 2006). Taken together, the existing evidence suggests that the self-focused goal pursuit that characterises aspects of approach motivation as assessed by the BAS scales may be at odds with the average increases in prosocial aspects of personality that tends to characterise development into middle adulthood. This provides additional indirect evidence that aspects of approach motivation might be expected to show an average decline between young and middle adulthood.

3. Stability and change in avoidance motivation

It is less clear whether normative changes in avoidance sensitivity would be expected to occur between younger, middle, and older adulthood. On the one hand, and consistent with Heckhausen et al.'s (2010) motivational theory, lifespan developmental researchers have suggested that avoidance motivation is likely to become an increasingly important aspect of successful self-regulation of development with advancing age. Specifically, as older adults experience ageing-related losses, a well-developed sense of when to avoid selecting goals that could tax limited resources is thought to underlie adaptive processes of maintenance and loss regulation (Riedeger & Ebner, 2007). Empirical research shows that older adults are more likely than younger adults to endorse developmental goals concerned with loss prevention (Ebner et al., 2006; Ebner, Riedeger, & Lindenberger, 2009) suggesting that avoidance sensitivity could be higher among older adults relative to those in younger, and middle adulthood.

On the other hand, personality researchers have highlighted conceptual links between avoidance motivation and negative emotionality, which appears to decline with advancing age. The neurobiological system that contributes to avoidance sensitivity is thought to underlie the expression of negative emotions (cf, Corr, 2004) which is reflected in the items developed by Carver and