

## ABSTRACT

Subjective well-being is considered to be one important aspect of successful development and aging (Baltes & Baltes, 1990; Baltes, Lindenberger, & Staudinger, 2006; Rowe & Kahn, 1997; Ryff & Singer, 1998). It can be studied as a persisting disposition but also as a short-term reaction to endogenic and exogenic events (e.g., Eid & Diener, 1999). This dissertation addresses three concerns about the experience of well-being that have received relatively little attention in the lifespan developmental literature: Age differences in (a) the dynamics (i.e. short-term fluctuations) of emotional well-being, (b) in trait- and state-like correlates of fluctuations in emotional well-being, and (c) in the day-to-day within-person associations between well-being and cognitive performance.

Studying the dynamics of emotional well-being is important for two main reasons. First, short-term intraindividual fluctuations in psychological functioning are considered to represent meaningful interindividual differences in the adaptive capacity and integrity of the psychological system (e.g., Baltes, Reese, & Nesselroade, 1977; Eid & Diener, 1999; Nesselroade, 1988, 1991a). Second, the two central components of emotional well-being, positive affect (PA) and negative affect (NA), involve different processes and can have profound consequences for other domains of psychological functioning. For instance, the psychological system is geared to maximize PA and to minimize NA (e.g., Taylor, 1991). PA is thought to be a representation of an underlying behavioral approach system, whereas NA is considered to represent a behavioral withdrawal system (Carver & Scheier, 1990; Elliot & Thrash, 2002). Traditional cross-sectional and longitudinal studies suggest that emotional well-being remains relatively stable across the adult lifespan (e.g., Costa, Zonderman, McCrae, Cornoni-Huntley, Locke, & Barbano, 1987; Gross, Carstensen, Tsai, Skorpen, & Hsu, 1997; Kunzmann, Little, & Smith, 2000; Mroczek & Kolarz, 1998). These studies, however, provide merely snapshots on development. Studies of short-term intraindividual variability may be better suited to provide information about age-related and other individual differences in the dynamic (i.e., process) nature of emotional experience as it unfolds in everyday life.

Given the important role of emotional well-being in general psychological adaptation, there have long been speculations that processes linked to emotion regulation likely have both positive and negative implications for other aspects of psychological functioning, especially cognitive performance (e.g., Bless, 2003; Fredrickson, 1998; Gray, 2001; Isen, 1984, 1999). Emotional states, for example, may serve as selective filters for processing information (e.g., Bower, 1981; Easterbrook, 1959) or provide a context for optimizing cognitive processes, possibly mediated through neurotransmitter systems such as dopamine (Ashby, Isen, & Turken,

1999; Wittmann, Schott, Guderian, Frey, Heinze, & Düzel, 2005). Several theories propose that the successful regulation of emotion and cognitive performance may draw on similar basic cognitive resources. Differential allocation strategies across the two domains may depend on the cognitive load of an emotional experience or the priority and difficulty of the cognitive task (Ellis & Ashbrook, 1988; Richards & Gross, 2000; Schmeichel, Vohs, & Baumeister, 2003). Lifespan theory suggests that patterns of resource allocation change across the lifespan (Baltes et al., 2006; Riediger, Li, & Lindenberger, 2006). Whereas several experimental studies have investigated the association of induced mood on cognitive performance in young adults (e.g., Gray, 2001), little is known about age-related differences in the emotion-cognition relationship and whether it can be identified at an intraindividual level. The examination of individual and age-related differences in this coupling is thought to provide a more integrative understanding of the complexity and multidimensionality of emotional and cognitive functioning in young and older adults.

Open questions about age-related differences in intraindividual variability of emotional well-being, some of its trait-like and state-like correlates in terms of personality, psychological adaptation, stress, and events, as well as the coupling between daily emotional well-being and cognitive performance are addressed using data from within a larger project (Li, Lindenberger, & Smith, 2005). Self-reported PA and NA and cognitive performance (working memory and vigilance) were assessed in daily laboratory sessions across 45 consecutive days ( $n = 18$  young adults, age range 20–30 years, and  $n = 19$  older adults, age range 70–80 years).

Results derived from analyses of variance and multilevel modeling suggest that older adults report higher mean levels of daily PA and show a greater day-to-day stability in PA and NA than younger adults. In addition, age group accounted for substantially greater portions of unique individual difference variance in affect variability than personality factors. Multilevel modeling analyses indicated that daily PA was more strongly related to daily events in young than in older adults. Exploratory correlational analyses yielded a negative relationship between variability in NA and psychological well-being, whereas no significant association between variability in PA and psychological adaptation could be identified. Finally, hierarchical linear modeling of the dynamical coupling between affect and cognitive performance indicated that the average within-person relationship was not significantly different from zero. There were, however, reliable interindividual differences in coupling patterns. These individual differences could not be explained by age. They were, in part, attributable to average daily cognitive performance and personality factors. The present design opens up a new perspective on the day-to-day dynamics of adaptive capacity in older and younger adults in the domain of emotion and its association with cognitive functioning.