The effects of neuroticism and extraversion on self-assessed health and health-relevant cognition

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Abstract

Previous research suggests that personality traits are related to poorer self-assessed health (SAH) and other health-relevant cognition. In the current study, the effects of neuroticism (N), extraversion (E) and their interaction on a variety of SAH and health cognition variables were examined in 66 male and 69 female participants. Previous relations between N, SAH, and self-reported health behavior were replicated and extended. N was also found to predict poorer health behavior self-efficacy, particularly in the presence of low E. E was positively related to health behavior, health behavior outcome expectancies and likelihood estimates for positive health outcomes. There was a curvilinear effect of E on SAH, such that E was related to higher symptom reports and poorer global health ratings only among individuals high in E. The findings suggest that N and E are reliable predictors of health-relevant cognition.

Keywords: Neuroticism; Extraversion; Self-assessed health; Health cognition

1. Introduction

Prior research suggests that trait personality variables, such as neuroticism (N) and extraversion (E), may influence various aspects of health and illness experience, including symptom reporting, health behaviors, and health-relevant cognitive processes. Most personality and health self-assessment studies have focused exclusively on the effects of N. Given a growing literature...
that suggests N and E interact to influence mood experiences (e.g., McFatter, 1994; Williams, Surwit, Babyak, & McCaskill, 1998), and in light of E’s relationship to health-related factors such as exercise (e.g., Watson & Pennebaker, 1989), including E as an independent variable represents an important next step in explicating personality effects on health cognition. The purpose of the current study was to examine the independent and interactive effects of these personality factors on a variety of self-assessed health (SAH) and health-relevant cognition variables.

1.1. Neuroticism, extraversion, and health-relevant cognition

N is a personality factor associated with increased emotional distress and poor stress coping (Costa & McCrae, 1987, 1992; Eysenck, 1967, 1981; Eysenck & Eysenck, 1985). There is substantial empirical evidence that individuals high in N, (and in the highly related construct trait Negative Affectivity (NA; Watson & Clark, 1984)), rate themselves to be in poorer health than individuals low in this dimension (Clark & Watson, 1988; Cohen et al., 1995; Costa & McCrae, 1987; Watson, 1988; Watson & Pennebaker, 1989; Williams & Wiebe, 2000). Importantly, the effect of N on other health-relevant cognition, such as outcome expectancies and health behavior self-efficacy, has not been examined.

The personality dimension of E represents the extraversion–introversion trait, with high levels indicating sociability, excitement-seeking, and high activity levels. Low levels indicate the absence of these variables (i.e., preference for being alone, even-paced) (Costa & McCrae, 1992). Unlike N, E is thought to be largely unrelated to physical symptom reports and negative health experiences (Watson & Pennebaker, 1989); however, the effect of E on SAH has received much less attention than N. Additionally, E might bear an indirect relationship to health outcomes by virtue of its significant correlations with exercise and other wellness behaviors such as healthy eating and taking vitamins (Booth-Kewley & Vickers, 1994; Watson & Pennebaker, 1989). Moreover, previous research has largely ignored potential interactive effects between N and E, or curvilinear effects of these variables on SAH and other health-relevant cognitive processes. One goal of the current study was to examine N and E effects and interactive effects on a broad spectrum of self-assessed health and health cognition variables.

A neglected area of health cognition research is the relationship between personality and cognitive processes relevant to health behavior. Cognitive factors such as self-efficacy expectations (beliefs regarding one’s capability of performing certain actions) and outcome expectancies (one’s estimation that a given health behavior will lead to particular results) are known to exert an important influence on engaging in health behaviors such as smoking cessation, eating, weight control and exercise (Maddux & DuCharme, 1997; Strecher, Champion, & Rosenstock, 1997). Although Salovey and Birnbaum (1989) found that state mood significantly affected participants’ ratings of their self-efficacy beliefs (but not outcome expectancies) the effects of trait propensity to mood states (i.e., N and E) are unknown.

Beliefs about one’s vulnerability to illness might also influence health-relevant behavior, such as seeking medical treatment. The effects of “unrealistic optimism” (Weinstein, 1982, 1984) may lead individuals to underestimate health risks and perceive themselves as minimally vulnerable to future negative health events. Salovey and Birnbaum (1989), however, suggested that such estimates of future risk were susceptible to the contextual influence of state mood. Indeed, they found that participants in neutral and positive mood conditions rated others’ vulnerability to future
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