Introduction

• Older participants typically show greater stress reactivity than younger adults (e.g., Ötte, Hart, Neylon, Marram, Yaffe, & Mohr, 2005; Uchino, Birmingham, & Berg, 2010).

• There is conflicting evidence regarding the association between personality and stress reactivity. Some studies show a relationship (e.g., neuroticism and cortisol reactivity - Houtman & Bakker, 1991; Phillips, Carroll, Burns, & Drayson, 2005). Others have found no associations (e.g., Roy, Kirschbaum, & Steptoe, 2001; Schommer, Kudielka, Heilhammer, & Kirschbaum, 1999; Van Eck, Nicolson, Berkhof, & Salun, 1996).

• Past work has focused on the relationship between personality traits and stress reactivity, without consideration of the more specific facets or age differences.

Current Study

• We examined the association between age, personality (both traits and specific facets) and reactivity (physiological and self-reported measures) to an induced stressor, and whether age differences in stress reactivity were moderated by personality.

Research Questions

1. Are there age differences in the cortisol stress response and self-rated stress?
2. Which traits and facets of the Big Five Personality Factors contribute to stress reactivity?
3. Are age differences in stress reactivity moderated by personality traits and/or facets?

Method

Participants

• 152 people from a probability sample (West suburban Boston)
• Age range: 22-84 (M=57.24, SD=15.63)
• Exclusion criteria: Neurological disorders, stroke, no driver’s license, education level below HS diploma or equivalent, non-native English speaker, low Pfeiffer SPMG score
• 46.7% Women, 93% White
• Education: 17.3% - less than college, 30.3% - college degree, 52.6% graduate school or higher

Procedure

Lab Stressor = Challenging Driving Scenario with Simulator: navigating winding/slippy roads and intersections, with periods of divided attention involving cognitive and perceptual tasks.

Material

• STISIM Drive™Driving Simulator -M100 www.stisimdrive.com

Measures

STRESS

• Stress Reactivity (Hypothalamic-Pituitary-Adrenocortical (HPA) System Reactivity): sample taken 20 minutes after the stressor minus sample before the stressor (baseline)

• Self-report

On a scale of 1 to 5 where 1 is no stress and 5 is a lot of stress, how much stress did you feel during the driving segment? (1 = no stress; 5 = a lot of stress)

PERSONALITY

NEO-PI-R (Costa & McCrae, 1992)

Five-Factor Model, 6 facets of each factor

240 items, 5-point Likert scales (disagree-agree)

Cortisol Reactivity as a Function of Age and Levels of Conscientiousness

F(1, 121) = 5.47*

Conscientiousness: degree of organization, persistence, control, and motivation in goal directed behavior

Cortisol Reactivity as a Function of Age and Levels of Anxiety (Neuroticism)

F(1, 69) = 9.25**

Anxiety (Neuroticism): level of free floating anxiety

Cortisol Reactivity as a Function of Age and Levels of Impulsiveness (Neuroticism)

F(1, 69) = 3.95**

Impulsiveness (Neuroticism): tendency to act on cravings and urges rather than reining them in and delaying gratification

Summary of interaction results:
OLDER people with lower levels of Conscientiousness and higher levels of Anxiety and Impulsiveness (Facets of Neuroticism) show greater stress reactivity.

Conclusions

• Consistent with past findings, older participants displayed greater cortisol reactivity.

• Personality traits and facets were related to cortisol stress reactivity - especially extraversion and the facets of neuroticism (depression) and agreeableness (compliance).

• Past work has found the neuroticism trait to be related, but it appears that it is the specific subcomponent of depression that is related.

• Although older adults have generally been found to react more, we found that individual differences in personality can moderate these effects. Older participants with higher levels of conscientiousness, lower levels of anxiety, and lower levels of impulsiveness showed less cortisol reactivity in the challenging situation.

Future Directions

• In future work we will look at other physiological indicators of reactivity (e.g., heart rate and skin conductance), to see if different systems show similar relationships with age and personality.

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