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Conscientiousness Predicts Greater Recovery from Negative Emotion

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Abstract

Greater levels of conscientiousness have been associated with lower levels of negative affect. We focus on one mechanism through which conscientiousness may decrease negative affect: effective emotion regulation, as reflected by greater recovery from negative stimuli. In 273 adults who were 35 - 85 years old, we collected self-report measures of personality including conscientiousness and its self-control facet, followed on average 2 years later by psychophysiological measures of emotional reactivity and recovery. Among middle-aged adults (35 - 65 years old), the measures of conscientiousness and self-control predicted greater recovery from, but not reactivity to, negative emotional stimuli. The effect of conscientiousness and self-control on recovery was not driven by other personality variables or by greater task adherence on the part of high conscientiousness individuals. In addition, the effect was specific to negative emotional stimuli and did not hold for neutral or positive emotional stimuli.

Introduction

In the Big Five model of personality, conscientiousness is conceptualized as a higher-order personality trait that subsumes lower-order traits including competence and achievement-striving, orderliness, and self-control or deliberation (Costa & McCrae, 1992; McCrae & John, 1992; Roberts, Chernyshenko, Stark, & Goldberg, 2005). Recent meta-analyses reveal that conscientiousness is inversely associated with general negative affect (Fayard et al., 2011), as well as with mental health problems such as anxiety and depression (Kotov, Gamez, Schmidt, & Watson, 2010) that are characterized by high levels of negative affect (Clark & Watson, 1991). Although negative affect may reduce conscientiousness or individuals' perceptions of their own conscientiousness, conscientiousness may also decrease negative affect. For one, high conscientious individuals are less likely to experience a variety of stressful life events, such as illness and poor health (Turiano et al., in press) and divorce (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007), that can precipitate negative affect (Heady & Wearing, 1989; Kendler, Karkowki, & Prescott, 1999). Here, however, we focus on a different, novel mechanism through which conscientiousness may decrease anxiety and depression: successful emotion regulation, as reflected in better recovery from negative stimuli.

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Existing research suggests that individuals higher on conscientiousness may be better at down-regulating negative emotions. From a theoretical perspective, conscientiousness is thought to be developmentally related to effortful control (Caspi, Roberts, & Shiner, 2005; Rothbart, Ahadi, & Evans, 2000), which is integrally related to emotion regulation (Rothbart & Sheese, 2007). In one empirical study (Jensen-Campbell, Knack, Waldrip, & Campbell, 2007), greater self-reported conscientiousness predicted less anger (based on self-report and EEG measures) after a frustrating laboratory-based experience, and greater conscientiousness also mitigated the link between anger and aggressive behavior towards the alleged perpetrator of the frustrating experience. However, anger was measured at only one time point after the frustrating experience, making it difficult to determine whether lower levels of anger among high conscientious individuals reflected better regulation of anger once induced (better recovery) or less induction of anger to start with (decreased reactivity). Further, Jensen-Campbell et al. (2007) focused on the higher-order dimensions of personality rather than the lower-order dimensions (facets) of conscientiousness, some of which may be more important for emotion regulation than others. In particular, the self-control (or deliberation) facet of conscientiousness (Roberts et al., 2005) may predict better control of emotions.

Thus, in a large, population-based sample, we used psychophysiological measures of emotion collected both during and following the presentation of emotional stimuli to investigate whether conscientiousness and its self-control facet prospectively predict decreased reactivity to and/or better recovery from negative stimuli.

Methods

Participants

We studied 331 adult participants who were part of a larger study assessing health and well-being across the life span (MIDUS II: www.midus.wisc.edu), which has been described previously (Love, Seeman, Weinstein, & Ryff, 2010; Radler & Ryff, 2010). The 331 participants in our study were those members of MIDUS II who (mostly due to geographical proximity) were available to travel to our laboratory in Madison, WI for an experimental psychophysiology session. Participants in our sample did not differ significantly from the overall MIDUS II sample on sex, education, or income, but they were significantly younger (on average 53.0 years old, compared to 55.0 years old in the overall MIDUS II sample), less likely to be White non-Hispanic (64.4%, compared to 81.0% in the overall MIDUS II sample), and less likely to be married or living with a partner (64.7%, compared to 70.5% in the overall MIDUS II sample). Participants in our study came from several subsamples included in MIDUS II: the main sample, which also participated in an earlier wave of data collection (MIDUS I); a twin sample; and a sample from Milwaukee. Out of the 331 participants, 58 were excluded (49 because their corrugator data were not of good quality, and 9 because they were missing at least one personality scale). Among the 273 remaining participants, 154 (56.4%) were female and 119 (43.6%) were male; 105 (38.5%) were between 35 and 49 years old, 119 (43.6%) were between 50 and 65 years old, and 49 (17.9%) were between 66 and 85 years old; and 170 (62.3%) identified as White non-Hispanic, 95 (34.8%) identified as African-American, and 8 (2.9%) identified as other races and ethnicities.

Procedures and Measures

We collected measures of emotional reactivity and recovery from the participants in an experimental psychophysiology session that took place between 2004 - 2009 (see Figure 1). Participants reported on their personality approximately 0.5 - 5.5 years (median 2 years) *prior to* the psychophysiology session.

During the *psychophysiology session*, we presented 30 negative, 30 neutral, and 30 positive pictures from the International Affective Picture System (Lang, Bradley, & Cuthbert, 2005) in a randomized sequence (see van Reekum et al. (2010) for additional details). A 1s fixation cross preceded each picture, which was then presented for 4s, followed by an inter-trial interval that varied randomly between 14 - 18s. We instructed participants to press one of two keyboard buttons as quickly as possible to indicate the color of the picture border (yellow or purple), which was present for the first 0.5s of the picture presentation. We also instructed participants to keep their gaze on the screen and to avoid body and head movements during the task. During the session, we collected electromyographic data from the *corrugator supercilii* muscle. Previous research has shown that corrugator activity is potentiated by unpleasant stimuli and inhibited by pleasant stimuli (Lang, Greenwald, Bradley, & Hamm, 1993; Larsen, Norris, & Cacioppo, 2003), that corrugator activity is further modulated as would be expected by emotion regulatory processes, and that these measures show excellent test-retest stability (Lee, Shackman, Jackson, & Davidson, 2009). After processing and normalization (see van Reekum et al. (2010) for details), we divided the corrugator data into four epochs: a 1s pre-picture period ('fixation'), a 4s picture presentation period ('reactivity'), an initial 4s post-picture offset period ('early recovery'), and a subsequent 4s post-picture offset period ('late recovery'). We treated the fixation epoch as a baseline and subtracted it from the subsequent epochs, and then averaged the resulting data separately for each picture valence and subsequent epoch.

We assessed *personality* using the Midlife Development Inventory Big Five scales (MDIBFS; Lachman & Weaver, 1997) and a shortened version of the Multidimensional Personality Questionnaire brief form (Patrick, Curtin, & Tellegen, 2002), which we refer to as the MPQ-S. The MDIBFS asks respondents to rate how well they are described by each of 31 adjectives selected to assess the Big Five traits (Goldberg, 1992). The resulting scales have acceptable internal consistency: for the participants in our study, the Cronbach's alphas were 0.70 for Conscientiousness, 0.77 for Neuroticism, 0.81 for Extraversion, 0.80 for Openness, and 0.83 for Agreeableness. The scales also have moderate temporal stability: for the 174 participants in our study who were part of MIDUS I (an earlier wave of data collection), the longitudinal correlations from MIDUS I to MIDUS II were 0.61 for Conscientiousness, 0.55 for Neuroticism, 0.68 for Extraversion, 0.60 for Openness, and 0.63 for Agreeableness. We averaged responses to the 4 - 7 adjectives comprising each trait scale, with some items reverse coded, provided that responses were available for at least half of the items for that scale. Given the hypotheses delineated above, the Conscientiousness scale was the predictor of primary interest in our analyses.

The MPQ-S asks respondents to rate how well they are described by each of 35 statements selected to assess 10 lower-order traits subsumed by three higher-order traits (positive emotionality, negative emotionality, and constraint). For the participants in our study, Cronbach's alphas were: 0.73, 0.71, 0.68, and 0.68, respectively, for the Well-Being, Social Potency, Achievement, and Social Closeness subscales of Positive Emotionality; 0.75, 0.72, and 0.63, respectively, for the Stress Reactivity, Aggression, and Alienation subscales of Negative Emotionality; and 0.65, 0.48, and 0.57, respectively, for the Control, Traditionalism, and Harm Avoidance subscales of Constraint. We summed responses to each subscale, with some items reverse coded, provided that responses were available for at least half of the items for that subscale (for items with missing values, the mean value of completed items was imputed). The Control subscale of Constraint, which includes items such as "I like to stop and think things over before I do them" and has been shown to assess a lower-order dimension of conscientiousness described as self-control or deliberation (Roberts et al., 2005), was the predictor of secondary interest in our analyses.

Statistical Analyses

Manipulation Check—We used linear mixed-effects models to test the valence modulation of corrugator activity during each epoch. All models included a family-specific random effect to account for within-family dependence between twins, as well as a participant-within-family-specific random effect to account for the within-person dependence between valences. For tests of differences between all pairs of valences (negative, neutral, and positive) within an epoch (reactivity, early recovery, and late recovery), significance was based on the Bonferroni correction for multiple comparisons (0.0056=0.05/(3×3)).

Tests of Conscientiousness and Control on Corrugator Measures of Emotional Reactivity and Recovery—After calculating zero-order correlations, we used linear mixed-effects models to test the effects of Conscientiousness and Control (separately, and together) on corrugator activity during the reactivity, early recovery, and late recovery epochs of negative picture trials. In particular, we examined the interaction between Epoch and Conscientiousness (and/or between Epoch and Control), with Epoch treated as a quantitative variable (0 = reactivity, 1 = early recovery, 2 = late recovery) and Conscientiousness (and/or Control) treated as a continuous predictor. With Epoch coded in this way, the main effect of Conscientiousness (or Control) pertains to the effect of Conscientiousness (or Control) on corrugator activity during the reactivity epoch, whereas the interaction between Epoch and Conscientiousness (or Control) pertains to the effect of Conscientiousness (Control) on the slope of corrugator activity across epochs. All models included a family-specific random effect to account for within-family dependence between twins, as well as a participant-within-family-specific random effect to account for the within-person dependence between epochs. In addition, models included all of the following demographic variables as covariates: gender (male, female), age category (youngest = <50 years old, middle = 50-65 years old, oldest = >65 years old), subsample (Main, Twin, Milwaukee), and time elapsed between personality assessment and the psychophysiology session (in days).

After testing the effects of Conscientiousness and Control on corrugator reactivity and recovery, we performed three additional sets of analyses to examine the robustness and extent of these effects. First, to rule out alternative explanations, we included additional variables as covariates in the separate models for Conscientiousness and Control. More specifically, we included the other personality variables (for analyses with Conscientiousness, the other MDIBFS scales; for analyses with Control, the other MPQ-S subscales) to address the possibility that the effects of Conscientiousness and Control were driven by their relationship with other personality variables (e.g., Neuroticism). In addition, we included response time (the time to respond regarding the color of the picture border) to address the possibility that the effects of Conscientiousness and Control were driven by greater focus on the upcoming trial (for the purpose of quickly identifying the color of the picture border) on the part of high Conscientious individuals. Second, to determine whether the effects held across demographic groups, we included interactions between gender (or age category), Epoch, and Conscientiousness (or Control) in the separate models for Conscientiousness and Control. In these analyses, we employed treatment contrasts for demographic variables, with male treated as the baseline category for gender, and <50 years old age treated as a baseline category for age category. The parameters we report below thus refer to *differences* (between the category in question and the baseline category) in corrugator activity itself (main effect), in the effect of Conscientiousness or Control on corrugator activity (two-way interaction), and in the interaction between Epoch and Conscientiousness or Control on corrugator activity (three-way interaction). Third, to determine whether the effects of Conscientiousness and Control were specific to negative picture trials, we examined the interaction between Epoch and Conscientiousness (or Control) in models for corrugator activity during the reactivity, early recovery, and late recovery epochs of neutral and (separately) positive picture trials.

Results

Manipulation Check

In each of the epochs, corrugator activity differed significantly across all three valences such that activity in response to negative stimuli > activity in response to neutral stimuli > activity in response to positive stimuli. For the reactivity epoch, $\beta = 0.51$ for negative valence, $\beta = 0.17$ for neutral valence, and $\beta = -0.17$ for positive valence, with $p < .001$ for all pairwise differences between valences. For the early recovery epoch, $\beta = 0.25$ for negative valence, $\beta = 0.10$ for neutral valence, and $\beta = -0.41$ for positive valence, with $p < .001$ for all pairwise differences between valences. For the late recovery epoch, $\beta = 0.18$ for negative valence, $\beta = 0.07$ for neutral valence, and $\beta = -0.32$ for positive valence, with $p < .001$ for all pairwise differences between valences.

Effects of Conscientiousness and Control

The zero order correlations between study variables are presented in Table 1. These correlations reveal that Conscientiousness and Control predict significantly less corrugator activity in the recovery epochs for negative picture trials, without significantly predicting corrugator activity in the reactivity epoch for negative picture trials (or in any of the epochs for neutral or positive picture trials). Figure 2 further illustrates the differences in recovery of corrugator activity during negative picture trials for the top and bottom tertiles of Conscientious and Control. The correlations in Table 1 also reveal that Conscientiousness predicts slightly (but not significantly) faster response times to the picture border, whereas Control predicts slightly (but again not significantly) slower response times to the picture border.

In the linear mixed-effects models for negative picture trials, the main effect for Conscientiousness ($\beta = 0.03$, $p = .75$) was not significant, indicating no effect of Conscientiousness in the reactivity epoch. However, the two-way interaction between Epoch and Conscientiousness ($\beta = -0.18$, $p < .01$) was significant, indicating that higher Conscientiousness results in a more negative slope of corrugator activity across epochs. Similarly, the main effect for Control ($\beta = -0.03$, $p = .24$) was not significant, but the interaction between Epoch and Control ($\beta = -0.05$, $p = .02$) was significant. When both Conscientiousness and Control were included in the same model, the main effects for each remained non-significant ($\beta = 0.08$, $p = .44$ for Conscientiousness; $\beta = -0.04$, $p = .18$ for Control), and the interactions with Epoch were attenuated slightly ($\beta = -0.14$, $p = .05$ for Conscientiousness; $\beta = -0.03$, $p = .11$ for Control), as would be expected if Control is indeed a facet of Conscientiousness.

Including the other personality variables or response time as covariates in the model with Conscientiousness or Control had little effect on the main effects for Conscientiousness ($\beta = 0.03$, $p = .74$ with other personality variables; $\beta = 0.04$, $p = .67$ with response time) or Control ($\beta = -0.03$, $p = .27$ with other personality variables; $\beta = -0.04$, $p = .23$ with response time). Doing so also had little effect on the interaction between Epoch and Conscientiousness ($\beta = -0.18$, $p < .01$ with other personality variables; $\beta = -0.19$, $p < .01$ with response time) or between Epoch and Control ($\beta = -0.05$, $p = .02$ with other personality variables; $\beta = -0.05$, $p = .02$ with response time). (Note that the analyses with response time included only 267 participants because 6 participants were missing response time data.)

In the analyses investigating the effects of gender, the main effect for female (versus male) was not significant ($\beta = 0.59$, $p = .39$ in the model for Conscientiousness; $\beta = 0.64$, $p = .28$ in the model for Control), nor was the two-way interaction between female and Conscientiousness ($\beta = -0.12$, $p = .55$) or female and Control ($\beta = -0.05$, $p = .44$), or the three-way interaction between female, Epoch, and Conscientiousness ($\beta = 0.08$, $p = .55$) or between female, Epoch, and Control ($\beta = 0.03$, $p = .43$).

In the analyses investigating the effects of age category, the main effect for the middle (versus the youngest) age category was not significant ($\beta = 0.62$, $p = .39$ in the model with Conscientiousness; $\beta = -0.40$, $p = .53$ in the model with Control), nor was the two-way interaction between the middle age category and Conscientiousness ($\beta = -0.22$, $p = .31$) or between the middle age category and Control ($\beta = 0.03$, $p = .66$), or the three-way interaction between the middle age category, Epoch, and Conscientiousness ($\beta = 0.03$, $p = .82$) or between the middle age category, Epoch, and Control ($\beta = 0.00$, $p = .99$). In the model for Conscientiousness, the main effect for the oldest (versus the youngest) age category was significant ($\beta = 2.56$, $p = .02$), as was the two-way interaction between the oldest age category and Conscientiousness ($\beta = -0.83$, $p < .01$) and the three-way interaction between the oldest age category, Epoch, and Conscientiousness ($\beta = 0.66$, $p < .001$). In the model for Control, the main effect for the oldest (versus the youngest) age category was not significant ($\beta = 0.12$, $p = .89$), nor was the two-way interaction between the oldest age category and Control ($\beta = 0.57$, $p = .30$), but the three-way interaction between the oldest age category, Epoch, and Control ($\beta = 0.08$, $p = .16$), although not significant, was in the same direction as the three-way interaction between the oldest age category, Epoch, and Conscientiousness. Thus, we performed separate analyses for the oldest age categories and the other age categories. For the youngest and middle age categories (combined), the main effects for Conscientiousness ($\beta = 0.15$, $p = .17$) and Control ($\beta = -0.03$, $p = .43$) were not significant, indicating no effect of Conscientiousness or Control in the reactivity epoch for the younger age groups, but the two-way interaction between Epoch and Conscientiousness ($\beta = -0.28$, $p = .0001$) and Epoch and Control ($\beta = -0.06$, $p < .01$) were both negative and significant, indicating that higher Conscientiousness and higher Control result in a more negative slope of corrugator activity across epochs in the younger age groups. For the oldest age category, the main effects for Conscientiousness ($\beta = -0.58$, $p = .29$) and Control ($\beta = -0.08$, $p = .49$) were not significant, indicating no effect of Conscientiousness or Control in the reactivity epoch for the oldest age group. However, the two-way interaction between Epoch and Conscientiousness ($\beta = 0.36$, $p = .03$) and Epoch and Control ($\beta = 0.02$, $p < .01$) were positive and, in the case of Conscientiousness, significant, indicating that higher Conscientiousness and higher Control do not result in a more negative slope of corrugator activity across epochs in the oldest age group (if anything, the slope is positive).

Finally, in the linear mixed-effects models for neutral picture trials, the main effects for Conscientiousness ($\beta = 0.13$, $p = .16$) and Control ($\beta = 0.05$, $p = .09$) were not significant, nor were the two-way interactions between Conscientiousness and Epoch ($\beta = -0.06$, $p = .37$) and between Control and Epoch ($\beta = -0.02$, $p = .29$). Similarly, in the linear mixed-effects models for positive picture trials, the main effects for Conscientiousness ($\beta = 0.10$, $p = .28$) and Control ($\beta = 0.05$, $p = .09$) were not significant, nor were the two-way interactions between Conscientiousness and Epoch ($\beta = -0.04$, $p = .56$) and between Control and Epoch ($\beta = 0.00$, $p = .85$).

Discussion

Individual differences in Conscientiousness and Control predicted greater corrugator recovery to negative pictures without predicting initial corrugator reactivity. This pattern of results was similar across genders, but the relationship between Conscientiousness and greater recovery from negative stimuli was observed only in middle-aged and not older participants. Although Conscientiousness and Control were significantly correlated with other personality variables, controlling for those variables did not alter results, indicating that they were not driving the relationship between Conscientiousness/Control and greater recovery. In addition, controlling for response time (for the task of indicating the color of the picture border) did not alter results, suggesting that the relationship between Conscientiousness/Control and greater recovery was not driven by greater focus on the upcoming trial on the part of high Conscientiousness individuals, at least to the extent that that focus is reflected in response time. Similarly, because no instructions relevant to emotion regulation were given and because participants were alone in a dim-lit room during the psychophysiological session, the relationship between Conscientiousness/Control and greater recovery was not driven by greater adherence to emotion regulation instructions or by greater efforts to voluntarily control emotional expression in public on the part of high Conscientiousness individuals. Finally, the relationship between Conscientiousness/Control and greater recovery was specific to negative pictures and was not observed for neutral or positive pictures.

Our results suggest that (middle-aged) individuals higher on conscientiousness, especially its self-control facet, are better able to automatically down-regulate negative affect. Our finding regarding emotion regulation is consistent with previous experimental research where individuals higher on conscientiousness experienced less anger and exhibited less aggressive behavior following a frustrating experience (Jensen-Campbell et al., 2007). Although the reductions in anger observed by Jensen-Campbell and colleagues could be due to better recovery *or* to less reactivity, the design of our study allowed us to disentangle initial reactivity and recovery, revealing that the effects of conscientiousness and self-control are specific to the latter. In contrast to our study and that of Jensen-Campbell et al. (2007), Boyce, Wood, & Brown (2010) found that individuals higher on conscientiousness reported lower life satisfaction after losing their job, especially after multiple years of unemployment. Of course, their results may reflect the greater emotional saliency of job loss for high conscientiousness individuals, rather than a failure of emotion regulation *per se*. However, future research should explore whether high conscientious individuals are also better able to down-regulate levels of negative affect higher than those typically induced in laboratory experiments such as ours. In addition, future research should explore the strategies that allow individuals high on conscientiousness and self-control to more effectively down-regulate negative emotions in laboratory settings, although the strategies underlying the objective measures of emotion regulation used in our study are likely automatic and opaque to self-report.

Finally, our results provide the first empirical evidence that reactivity to and recovery from negative events are dissociable constructs that are differentially associated with individual differences in personality traits (here, conscientiousness and self-control) relevant to mental and physical health. In particular, better recovery from negative emotion may partially explain why high conscientiousness individuals have a lower risk of developing certain mental and physical health problems, such as depression (Kotov et al., 2010) and obesity (Chapman, Fiscella, Duberstein, Coletta, & Kawachi, 2009), that have been linked to negative events and stress (Kendler et al., 1999; Block, He, Zaslavsky, Ding, & Ayanian, 2009).

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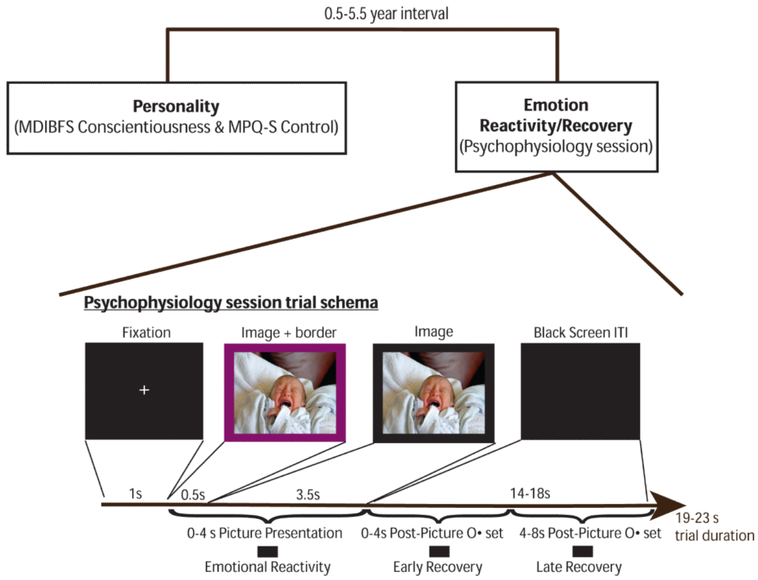

Figure 1.

Depiction of Data Collection (MDIBFS = Midlife Development Inventory Big Five scales; MPQ-S = shortened version of the Multidimensional Personality Questionnaire brief form)

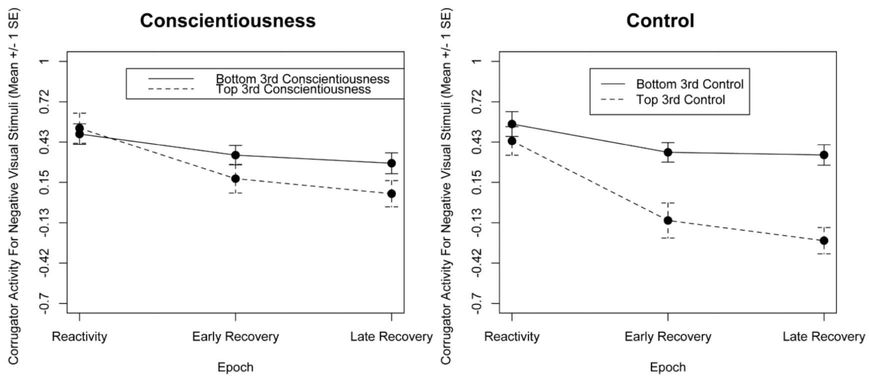

Figure 2.
The Relationship between MDIBFS Conscientiousness/MPQ-S Control and Corrugator Reactivity and Recovery from Negative Stimuli (MDIBFS = Midlife Development Inventory Big Five scales; MPQ-S = shortened version of the Multidimensional Personality Questionnaire brief form)

Table 1

Zero Order Correlations (p values) Among Study Variables

Variable 1	Variable 2	r (p)
Conscientiousness	Neuroticism	**−0.21** (<.001)
Conscientiousness	Extraversion	**0.30** (<.001)
Conscientiousness	Openness	**0.30** (<.001)
Conscientiousness	Agreeableness	**0.37** (<.001)
Conscientiousness	Control	**0.33** (<.001)
Control	Well-Being	0.00 (.96)
Control	Social Potency	−0.01 (.89)
Control	Achievement	**0.22** (<.001)
Control	Social Closeness	0.01 (.83)
Control	Stress Reactivity	0.03 (.60)
Control	Aggression	−0.04 (.56)
Control	Alienation	0.03 (.59)
Control	Traditionalism	**0.18** (<0.01)
Control	Harm	0.05 (.40)
Conscientiousness	Corrugator Reactivity (Negative)	0.05 (.40)
Conscientiousness	Corrugator Early Recovery (Negative)	**−0.13** (.04)
Conscientiousness	Corrugator Late Recovery (Negative)	**−0.15** (.02)
Conscientiousness	Corrugator Reactivity (Neutral)	0.09 (.16)
Conscientiousness	Corrugator Early Recovery (Neutral)	0.02 (.72)
Conscientiousness	Corrugator Late Recovery (Neutral)	0.01 (.85)
Conscientiousness	Corrugator Reactivity (Positive)	0.09 (.14)
Conscientiousness	Corrugator Early Recovery (Positive)	−0.03 (.64)
Conscientiousness	Corrugator Late Recovery (Positive)	0.05 (.42)
Control	Corrugator Reactivity (Negative)	−0.04 (.47)
Control	Corrugator Early Recovery (Negative)	**−0.21** (<.001)
Control	Corrugator Late Recovery (Negative)	**−0.23** (<.001)
Control	Corrugator Reactivity (Neutral)	0.08 (.19)
Control	Corrugator Early Recovery (Neutral)	0.11 (.07)
Control	Corrugator Late Recovery (Neutral)	0.00 (.94)
Control	Corrugator Reactivity (Positive)	0.11 (.08)
Control	Corrugator Early Recovery (Positive)	0.08 (.17)
Control	Corrugator Late Recovery (Positive)	0.10 (.10)
Conscientiousness	Response Time (Negative)	−0.08 (.22)
Conscientiousness	Response Time (Neutral)	−0.11 (.09)
Conscientiousness	Response Time (Positive)	−0.08 (.20)
Control	Response Time (Negative)	0.05 (.45)
Control	Response Time (Neutral)	0.05 (.44)
Control	Response Time (Positive)	0.07 (.25)

Note. Correlations in boldface indicate $p < .05$.