

# Uncovering the Affective Core of Conscientiousness: The Role of Self-Conscious Emotions

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**ABSTRACT** We conducted 3 studies to test the idea that guilt is a key affective component of Conscientiousness and that it can account for the relation between Conscientiousness and negative affect. Study 1 used meta-analysis to show that Conscientiousness was associated with specific emotions and overall negative affect but was most strongly associated with guilt. Conscientiousness was negatively related to guilt experience but positively related to guilt proneness. Also, guilt experience mediated the relation between Conscientiousness and negative affect. Study 2 ( $N = 142$ ) examined the relation between facets of Conscientiousness and guilt. We replicated results from Study 1 and showed that the relation between Conscientiousness and guilt was not due to overlap with Extraversion and Neuroticism. Study 3 ( $n = 176$ ) examined the interplay between Conscientiousness and guilt on grades in a short-term longitudinal study. These studies showed that Conscientiousness is primarily related to guilt and highlighted the importance of examining the emotional substrate of Conscientiousness.

Personality traits have been defined as relatively enduring patterns of thoughts, *feelings*, and behaviors that represent a readiness to respond in particular ways to specific environmental cues

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(Roberts & Jackson, 2008; Tellegen, 1991). According to this definition, emotions are an essential ingredient of personality traits. There has been a large amount of research on the link between personality and emotion, but the vast majority of this work has concentrated only on the trait domains of Extraversion and Neuroticism, which are believed to be an outgrowth of early temperament (Clark & Watson, 2008). Extraversion has been consistently linked with positive affect; in fact, the NEO-PI-R lists “positive emotions” as a facet of Extraversion (Costa & McCrae, 1992). Conversely, negative affect is a fundamental component of Neuroticism, which is described in terms such as *anxious*, *moody*, and *depressed* (John, Naumann, & Soto, 2008). It is important to identify the emotional structures underlying personality traits, as they illuminate the mechanisms through which personality traits affect important life outcomes. For example, the effect of Extraversion on interpersonal relations is largely explained by the positive affect component of the trait (Lucas & Diener, 2001). Despite an extensive amount of research on the emotional correlates of Extraversion and Neuroticism, the emotional substrates of the remaining three Big Five personality traits have received less attention. The current study aims to uncover the emotional components of Conscientiousness and to investigate how emotions operate within Conscientiousness to influence important life outcomes.

Conscientiousness is the tendency to be planful, organized, task- and goal-oriented, and self-controlled, and to delay gratification and follow norms and rules (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). Although this description of Conscientiousness does not reveal any overt link to emotion, previous research has shown that Conscientiousness is related to a variety of emotion-related outcomes. A meta-analysis including 148 studies (DeNeve & Cooper, 1998) reported that Conscientiousness was moderately related to both positive and negative affect, and even more strongly related to life satisfaction and happiness. Even more surprising is that Conscientiousness was related to each of these four constructs about as strongly as Extraversion and Neuroticism. A second, more recent meta-analysis (Heller, Watson, & Ilies, 2004) found an even stronger correlation between Conscientiousness and life satisfaction than that obtained by the previous meta-analysis. Conscientiousness has also been strongly linked to emotions related to attentiveness, a facet of positive affect (Watson, 2000; Watson & Clark, 1992). Finally,

multiple studies have found associations between Conscientiousness and the mood and anxiety disorders. A recent twin study found Conscientiousness to be second only to Neuroticism in predicting depression (Kendler & Myers, 2009), and another study found Conscientiousness to be the second strongest predictor among the Big Five of the unipolar mood disorders, including major depression, as well as the anxiety disorders (Kotov, Gamez, Schmidt, & Watson, 2010).

As described above, it is not surprising that Extraversion and Neuroticism are related to positive and negative affect. Conscientiousness does not share such a direct relationship to affect, yet it is consistently related to a variety of emotional outcomes. These findings beg many questions. Why is a trait domain like Conscientiousness, which has no obvious emotional content, related to general positive and negative affect, and further, why does it relate to emotions almost as strongly as Extraversion and Neuroticism? Paradoxically, the answers to these questions may lie in the more behavioral nature of Conscientiousness.

The lower order structure of Conscientiousness reveals five replicable facets of order, industriousness, responsibility, impulse control, and conventionality (Roberts, Walton, & Bogg, 2005), which are predominantly behavioral in their manifestations. People who are conscientious tend to organize their lives, work hard to achieve goals, meet the expectations of others, avoid giving in to temptations, and uphold norms and rules of life more than others. Conversely, people low in Conscientiousness lead more spontaneous, disorganized lives in which they will more often fail to meet interpersonal responsibilities and control temptations (Roberts et al., 2009). The types of behaviors contained in each of these facets of Conscientiousness clearly hold important affective consequences. For example, people low in responsibility, industriousness, and impulse control will engage in behaviors that may hurt others (e.g., cheating on a partner) or undermine their success (e.g., failing to study for an important exam). The unpleasant situations that follow from not being conscientious, such as damaged interpersonal relationships and failure to achieve goals, should cause individuals to experience more negative affect. Alternatively, individuals who are responsible, organized, industrious, and controlled should be able to avoid these negative outcomes, and thus experience less negative affect, through upholding interpersonal responsibilities and

following the rules essential for success (e.g., Nofle & Robins, 2007). In particular, we believe that Conscientiousness is uniquely suited to the self-conscious emotions, especially guilt (Tangney & Dearing, 2002), rather than to basic emotions (anger, joy, sadness, fear, disgust, surprise; Ekman, Friesen, & Ellsworth, 1972) because of the specialized process through which self-conscious emotions arise.

In their process model of self-conscious emotions, Tracy and Robins (2004) proposed that self-conscious emotions, such as guilt, arise when individuals reflect on their own behavior and determine whether this behavior is in line with their identity, as well as attribute behavior to internal or external causes. These processes provide a direct link to Conscientiousness, most likely through people's knowledge and use of internalized norms and expectations. Presumably, conscientious people have a stronger knowledge of behavioral ideals and have internalized these standards for behavior more clearly and strongly than others. In this case, a conscientious individual should be better able to reflect on his or her own behavior as it applies to adherence to or violation of norms and standards and whether this behavior is consistent with the person's identity as a conscientious person. Meeting norms or satisfying expectations would then lead to affective consequences, such as less guilt.

Since conscientious individuals generally play by the rules, work hard, and behave appropriately, they should subsequently have less cause to experience guilt on a day-to-day basis. However, behaving in a way that puts the achievement of a goal in jeopardy may result in experiencing guilt. Guilt is associated with so-called "reparative behaviors" (Tangney & Dearing, 2002) aimed at making amends for unconscientious behavior. Importantly, guilt is concerned with the specific behavior committed rather than the person who committed the behavior, so that the person who committed the behavior is still "salvageable" and can redeem him- or herself. Indeed, someone who habitually behaves in a conscientious manner should not take an occasional lapse in judgment as evidence against oneself as a whole. Thus, conscientious individuals who experience guilt should be motivated, via reparative behaviors, to prove that they are still reliable friends and driven students or employees. These reparative behaviors may be conscientious acts themselves, in order to show that the transgressor can still be relied upon as a conscientious person. In the achievement case, higher experiences of guilt associated with lapses in Conscientiousness should be associated with an even stronger

drive to achieve in the long run, as guilt serves to restore individuals' conscientious behaviors (Roberts et al., 2009).

Although little research has examined Conscientiousness and emotion, a few studies have investigated the relation between personality traits and self-conscious emotions and have established links between Conscientiousness and guilt (Abe, 2003; Einstein & Lanning, 1998; Fee & Tangney, 2000). Based on the conceptual model and the limited empirical evidence, we believe that Conscientiousness should be negatively related to the day-to-day experience of guilt. Furthermore, if self-conscious emotions are the primary emotions associated with Conscientiousness, the experience of guilt should explain the consistent negative correlation between Conscientiousness and the experience of overall negative affect (DeNeve & Cooper, 1998). Specifically, we believe that guilt will mediate the relation between Conscientiousness and overall negative affect. Finally, we would expect Conscientiousness to contribute to how a person handles a guilt-inducing situation, with conscientious individuals being more guilt prone, or more likely to respond to a transgression with reparative emotions and behaviors.

Across the following three studies, we examined the relationship between Conscientiousness and negative emotion in three ways. In Study 1, we used a meta-analytic approach to estimate the relation between Conscientiousness and both basic emotions and guilt. We also used this database to test whether guilt mediated the relationship between Conscientiousness and negative emotion. In Study 2, we replicated and extended the results of Study 1 by gathering information on a more differentiated model of Conscientiousness and self-conscious emotions. In particular, we assessed the full range of facets underlying Conscientiousness in order to determine which aspect was most strongly related to self-conscious emotions. Finally, in Study 3, we tested whether guilt plays a role in explaining the process by which Conscientiousness is associated with positive life outcomes, such as academic achievement.

## STUDY 1

In Study 1, we used a meta-analytic approach to investigate the relationship between Conscientiousness and self-conscious emotions, basic emotions, and overall negative affect across a large

number of studies. In examining the relationship between Conscientiousness and guilt, we distinguished between the *experience* of guilt, or the frequency with which participants actually experience guilt, and *guilt proneness*, or how much guilt participants would experience upon misbehaving. Consistent with previous research, we anticipated that Conscientiousness would be negatively related to the experience of guilt. We presumed that conscientious people avoid problematic pitfalls and therefore do not experience events that would lead to guilt (e.g., failing an exam, not making appointments, letting a friend down). In contrast, we assumed that Conscientiousness will be positively related to guilt proneness. That is, one reason why conscientious people would anticipate pitfalls is because they understand the emotional consequences of their actions. Thus, they should have a stronger tendency to feel guilt, when and if they do something to warrant the emotion. Finally, we predicted that the relationship between Conscientiousness and overall negative affect would be mediated by guilt experience.

## Method

### *Literature Searches*

We used three methods to locate relevant studies. First, the PsycINFO and Social Science Citation Index databases were searched using the following keywords: *Conscientiousness*, *Big Five*, *personality*, *self-conscious emotion*, *emotion*, *guilt*, *affect*, and *negative affect*. Second, we completed searches for publications by authors who regularly studied self-conscious emotions. Third, we contacted individual researchers who studied self-conscious emotions in order to gain access to any unpublished data and/or manuscripts that contained information related to Conscientiousness and self-conscious emotions.

*Criteria for inclusion.* In order for a study to be included in the current meta-analysis, the article or data set needed, at minimum, to contain measures of Conscientiousness and guilt. Studies that examined constructs related to Conscientiousness (e.g., internal locus of control) but not formal measures of Conscientiousness were also excluded from the study. No restrictions were placed on characteristics of the participants, such as age, gender, or clinical/nonclinical.

Forty-five studies met the inclusion criteria, with 35,250 total participants. Overall, 171 individual effect sizes were included in the meta-analysis. Specifically, there were 66 effect sizes for guilt; 11 each for anger,

joy, sadness, disgust, and surprise; 25 for fear; and 25 for negative affect. Four of the effect sizes for guilt were obtained from published articles, and the remaining effect sizes for guilt and for the other affect terms came from unpublished data.<sup>1</sup> For the data for which demographic information was available, participants ranged in age from 17 to 59, and the samples were diverse with regard to gender and race/ethnicity.

### *Meta-Analytic Analysis*

We used the correlation between Conscientiousness and affect as the effect size measure. In estimating the population effect sizes we used a random effects model. When the data were found to be homogeneous, we instead utilized a fixed effects model (Roberts, Kuncel, Viechtbauer, & Bogg, 2007). All population effect sizes were estimated using Comprehensive Meta-Analysis software (Borenstein & Rothstein, 1999).

Although the majority of data used measures of experiencing guilt (e.g., PANAS-X; Watson & Clark, 1999), a number of studies also included measures of guilt proneness (e.g., Test of Self-Conscious Affect [TOSCA]; Tangney & Dearing, 2002). According to this distinction, we separated the guilt measures into experienced guilt and guilt proneness. The basic emotion data included only measures related to the frequency of experiencing certain affects, so we created one estimate for each basic emotion. To calculate effect sizes for basic emotions, we used single-item measures for anger, disgust, and surprise. For joy, fear, and sadness, we used multiple adjective descriptors (e.g., “joyful, happy”; “afraid, scared, frightened”; and “sad, blue,” respectively).

*Testing the mediation model.* Among the samples used in the meta-analysis were 11 unpublished data sets that contained the full Positive and Negative Affect Schedule-Expanded Form (PANAS-X; Watson & Clark, 1999). These data were used to test whether experiencing guilt mediated the relation between Conscientiousness and negative affect. Sample sizes ranged from  $N = 135$  to  $N = 2,339$ . Across these studies, participants ranged in age from 17 to 59 ( $M = 19.67$ ,  $SD = 2.16$ ), with 66.5% female and 35.5% male. Overall race/ethnic makeup was 1.6% African American, 40.9% Asian, 36.2% Caucasian, 7.7% Hispanic, 7.5% mixed race, and 6.1% other.

1. More detailed information on the studies included in this meta-analysis can be found at [http://www.hasci.net/Fayard\\_et\\_al\\_supplementalmaterial.doc](http://www.hasci.net/Fayard_et_al_supplementalmaterial.doc).

## Results

### *Meta-Analysis*

As predicted, Conscientiousness demonstrated a statistically significant relationship to general negative affect, as well as to most basic emotions (the correlation with surprise was quite low, although significant; see Table 1). The population correlation between Conscientiousness and negative affect was  $\rho = -.33$ , and the median correlation with basic emotions was approximately  $|.22|$ . Consistent with our expectations, Conscientiousness showed a significant relationship to measures of guilt proneness ( $\rho = .21$ ) and the experience of guilt ( $\rho = -.32$ ).

### *Mediation*

In order to test whether experiencing guilt mediated the relationship between Conscientiousness and experiencing negative affect, we first created a measure of negative affect without guilt by calculating the original Negative Affect scale from the PANAS-X (Watson & Clark, 1999), excluding the items contained in the PANAS-X Guilt subscale

**Table 1**  
Population Estimates of Correlations Between  
Conscientiousness and Affect

	<i>K</i>	<i>N</i>	$\rho$	CI	<i>Q</i>
<b>Guilt</b>					
Guilt experience	49	36,915	-.32	-.34, -.30	128.89*
Guilt proneness	25	26,253	.21	.19, .23	41.89*
<b>Basic emotions</b>					
Anger	11	15,485	-.23	-.24, -.21	6.96
Sadness	11	15,587	-.26	-.28, -.25	2.39
Joy	11	15,591	.20	.19, .22	5.33
Surprise	11	15,582	-.05	-.06, -.03	13.35
Fear	25	32,608	-.22	-.23, -.21	22.53*
Disgust	11	15,600	-.21	-.23, -.20	4.75
Negative affect	25	32,725	-.33	-.35, -.32	39.56*

*Note.* *K* = number of samples;  $\rho$  = estimated population correlation; CI = 95% confidence interval for estimated population correlation; *Q* = heterogeneity statistic.

\* $p < .05$ .

(“guilty,” “ashamed”). The six-item PANAS-X Guilt subscale (“guilty,” “ashamed,” “blameworthy,” “angry with self,” “dissatisfied with self,” “disgusted with self”) was used as the measure of guilt experience for this analysis.<sup>2</sup> Next, we examined the 11 unpublished data sets from the current meta-analysis that contained the entire PANAS-X Guilt subscale to use for mediation testing. Reliability for the PANAS-X Guilt subscale ranged from  $\alpha = .87$  to  $\alpha = .89$ .

Results from mediation analyses revealed that in all 11 samples, guilt experience fully mediated the relationship between Conscientiousness and negative affect without guilt. When controlling for PANAS guilt, the zero-order association between Conscientiousness and negative affect without guilt (average  $r = -.33$ , all  $p < .05$ ) was considerably reduced in all 11 studies (average  $r = -.08$ ). Sobel’s  $z$  test indicated significant mediation in all 11 data sets (average  $z = 13.52$ , all  $p < .05$ ).

Conversely, no other emotions fully mediated the relationship between Conscientiousness and negative affect. We use anger as an example because like guilt, anger is a negative emotion that is associated with approach, rather than avoidance (Carver & Harmon-Jones, 2009), making anger the most appropriate comparison to guilt. We used the PANAS-X Hostility scale (“angry,” “hostile,” “irritable,” “scornful,” “disgusted,” and “loathing”) as the measure of anger. Similar to our analyses with guilt, we created a measure of negative affect without hostility (excluding the items “irritable” and “hostile”). Reliability ranged from  $\alpha = .83$  to  $\alpha = .85$  for hostility. Across all 11 samples, the zero-order correlation between Conscientiousness and negative affect without hostility averaged  $r = -.35$  (all  $p < .05$ ). When controlling for hostility, this correlation remained significant in all 11 samples, with average

2. Guilt and shame are conceptually and, in some contexts, empirically distinct emotions that have been associated with divergent outcomes—guilt with approach behaviors and shame with avoidance behaviors (Tangney & Dearing, 2002; Tracy & Robins, 2006). Consequently, we examined the possibility that the shame-related items in the PANAS-X (e.g., “ashamed”) have different relations with Conscientiousness than the guilt-related items (e.g., “guilty”). When we repeated the analyses separately for each item, the average correlations with Conscientiousness across all 11 studies were quite similar for each item, ranging from  $-.28$  (“disgusted with self”) to  $-.32$  (“ashamed”). Study 2 showed the same pattern; the correlations with Conscientiousness were very similar for shame- and guilt-related PANAS-X items. Thus, in the current research, guilt and shame had similar relations with Conscientiousness.

$r = -.20$  (all  $p < .05$ ). Hostility partially mediated the relation between Conscientiousness and negative affect without hostility (average  $z = 11.03$ , all  $p < .05$ ) but did not fully account for this relationship. Overall, guilt experience emerged as the strongest mediator of the link between Conscientiousness and negative affect,<sup>3</sup> whereas the experience of other emotions, such as anger, accounted for a much smaller proportion of this association.

### Discussion

Meta-analytic results confirmed previous work (DeNeve & Cooper, 1998) indicating that Conscientiousness is related to overall negative affect. Specifically, we found that Conscientiousness was approximately equally related to five of the basic emotions—anger, sadness, joy, fear, and disgust—and significantly related to surprise as well, although the population correlation was low. As expected, Conscientiousness was related to proneness to guilt and more strongly negatively related to the experience of guilt.

Mediation analyses showed that guilt experience mediated the relationship between Conscientiousness and overall negative affect. Conscientious individuals seem to experience less negative affect as a whole because they experience less guilt, on average. We also tested the possibility that other emotions mediated the relationship between Conscientiousness and negative affect. We found little evidence that other forms of emotion explained the relation between Conscientiousness and negative affect as effectively as did the experience of guilt.

### STUDY 2

Study 2 sought to elaborate on the relationship between Conscientiousness and guilt in a number of ways. As can be seen by the studies

3. Across 11 samples, guilt experience and guilt proneness were significantly related in 5 out of 11 samples (average  $r = .08$ ). While guilt proneness was significantly correlated with negative affect in all but one sample (average  $r = -.11$ ), it was only a significant partial mediator of Conscientiousness and negative affect in 3 of the 11 samples (average  $z = -1.37$ ). In these samples, zero-order correlations showed little change when controlling for guilt proneness (average  $r = -.35$  to  $r = -.34$ ). This is most likely because guilt proneness is only relevant to experiencing negative affect if and when a person actually commits a behavior that would elicit negative affect. Thus, guilt proneness may not be able to account for the relation between Conscientiousness and the actual experience of negative affect.

summarized in Table 1, most of the previous research covarying Conscientiousness and emotion has not used a differentiated model of Conscientiousness. Therefore, in Study 2, we measured Conscientiousness at the facet level in order to identify which trait within the family of traits encompassed by Conscientiousness was most strongly related to guilt experience and guilt proneness. Specifically, we used measures that tap the major replicable facets of Conscientiousness, which include self-control, responsibility, conventionality, organization, and industriousness (Roberts et al., 2005). Examining the association at this level of specificity allowed us to examine whether certain facets of Conscientiousness, as opposed to Conscientiousness in general, best predicted guilt.

Additionally, we attempted to replicate the finding from Study 1 that Conscientiousness is negatively related to the experience of guilt but positively related to guilt proneness. The vast majority of data included in Study 1 used only one specific measure for the experience of guilt (generally, the PANAS-X; Watson & Clark, 1999) and one specific measure for guilt proneness (generally, the TOSCA-3; Tangney & Dearing, 2002). In Study 2, we improved the measurement of experience of guilt and guilt proneness by including multiple, varied measures of both types of guilt, as well as measuring the experience of guilt at both state and trait levels.

We also measured Extraversion and Neuroticism in order to test whether the association between Conscientiousness and self-conscious affect was due to an overlap with these affect-laden traits. Extraversion and Neuroticism have the strongest association with both positive and negative affect and sometimes show nontrivial associations with Conscientiousness. Therefore, Extraversion and Neuroticism may be third-variable confounds that could explain the association between Conscientiousness and self-conscious emotions. Finally, we aimed to replicate results from Study 1 and predicted that guilt experience would mediate the relation between Conscientiousness and overall negative affect in the current sample.

## Method

### *Participants*

Participants were 142 undergraduate students at the University of Illinois enrolled in introductory psychology courses. These students received partial class credit for their participation. The sample ranged in age from

18 to 34 ( $M = 19.08$ ,  $SD = 1.85$ ), with 80 females and 62 males. In terms of race/ethnic makeup, 4.2% identified themselves as African American, 23.9% as Asian, 57% as Caucasian, 10.6% as Hispanic, and 4.2% as other.

### *Measures*

*Personality traits.* Personality was assessed using two measures: the Conscientiousness Adjective Checklist (CAC; Jackson et al., 2009) and the Chernyshenko Conscientiousness Scales (CCS; Chernyshenko, 2003).

The CAC is a 123-item checklist containing adjectives intended to measure the Big Five, and in particular, Conscientiousness. These adjectives can be used to measure the five replicable facets of Conscientiousness: orderliness, responsibility, impulse control, industriousness, and conventionality. The adjective measure also contains markers to assess the remaining Big Five: Extraversion, Agreeableness, Openness to Experience, and Neuroticism. Participants indicated how well each item described them on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. Reliabilities for the Conscientiousness facet scales ranged from  $\alpha = .51$  to  $\alpha = .86$ , with an average reliability of  $\alpha = .72$ . Reliabilities for Extraversion and Neuroticism were  $\alpha = .84$  and  $\alpha = .76$ , respectively.

The CCS consists of 60 items divided into six 10-item subscales measuring facets of Conscientiousness (Order, Industriousness, Responsibility, Self-Control, Traditionality, and Virtue). To be consistent with the CAC results, we analyzed only the correlations for the first five subscales. Participants responded to statements such as “I rarely jump into something without first thinking about it” (self-control) and “I invest little effort into my work” (industriousness, reversed) on a scale from 1 (*disagree strongly*) to 4 (*agree strongly*). High scores indicate high levels of each trait. Reliabilities for the facet scales ranged from  $\alpha = .62$  to  $\alpha = .88$ , with an average of  $\alpha = .74$ .

*Experience of guilt.* The State Shame and Guilt Scale (SSGS; Tangney & Dearing, 2002) contains 15 sentences describing emotional states, such as “I feel remorse, regret.” The SSGS contains three subscales: Guilt, Shame, and Pride. Participants rated how much each statement described how they felt at the current moment on a scale from 1 (*not feeling this way at all*) to 5 (*feeling this way strongly*). Reliability for the SSGS Guilt subscale was  $\alpha = .87$ .

The Positive and Negative Affect Schedule, Expanded Form (PANAS-X; Watson & Clark, 1999) is a 60-item adjective-based measure containing overall positive and negative affect scales, as well as 11 emotion subscales (however, guilt was the only subscale examined in this

report). Examples of positive and negative affect terms are “enthusiastic” and “distressed,” respectively. The Guilt subscale contains six descriptive terms: “guilty,” “ashamed,” “blameworthy,” “angry with self,” “dissatisfied with self,” and “disgusted with self.” The PANAS-X was administered twice in the current study using two sets of instructions; the first directed participants to indicate the extent to which they experienced each emotion on a regular basis (trait), and the second asked participants to indicate whether they were experiencing each emotion at the current moment (state), both on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*). Reliabilities for trait and state experience of guilt were  $\alpha = .85$  and  $\alpha = .90$ , respectively.

*Guilt proneness.* The Test of Self-Conscious Affect-3 (TOSCA-3; Tangney & Dearing, 2002) is a scenario-based measure consisting of 16 scenarios and four to five possible reactions to each scenario. Typical scenarios included situations, such as “You make a mistake at work and find out a coworker is blamed for the error,” with statements for guilt reactions, such as “You would feel unhappy and eager to correct the situation” (vs. the shame response, “You would keep quiet and avoid the coworker”). Participants rated how likely they would be to respond according to each of the four to five reactions for each scenario on a scale from 1 (*not likely*) to 5 (*very likely*). Reliability for guilt proneness was  $\alpha = .81$ .

The Dimensions of Conscience Questionnaire (DCQ; Gore & Harvey, 1995; Johnson, Kim, & Danko, 1989) is a scenario-based measure consisting of 30 hypothetical situations representing three guilt subscales (Impersonal Transgression, Harm to Another Person, and Trust Violation) and two shame subscales (Social Impropriety and Exposed Inadequacy). For the present study, we focused on the three guilt subscales. Sample items for these subscales are “stealing something from a store without anyone else finding out” (impersonal transgression), “repeating damaging gossip about someone that you know is untrue” (harm to another person), and “continually making promises to a close friend, but failing to keep them” (trust violation). Participants indicated how they would feel in each situation using a scale from 1 (*somewhat good*) to 5 (*very bad*). Reliability for overall guilt proneness was  $\alpha = .83$ , and average reliability for the subscales was  $\alpha = .66$ .

## Results

Means and standard deviations for CAC Conscientiousness, Extraversion, and Neuroticism; CCS Conscientiousness; and all measures of affect can be found in Table 2. The three guilt experience measures

**Table 2**  
Means and Standard Deviations for Personality Traits and Guilt

	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>
CAC Conscientiousness	3.51	0.46	CAC Extraversion	3.35	0.70
Reliability	4.16	0.63	CAC Neuroticism	3.21	0.54
Orderliness	3.39	0.77	Experience of guilt		
Impulse control	3.57	0.55	PANAS-X trait	1.76	0.82
Industriousness	3.28	0.45	PANAS-X state	1.78	0.94
Conventionality	3.17	0.68	SSGS	2.11	1.01
CCS Conscientiousness	3.34	0.37	Guilt Proneness		
Responsibility	3.55	0.39	TOSCA-3	3.88	0.53
Order	3.29	0.67	DCQ Guilt	3.87	0.55
Self-control	3.30	0.52	Impersonal	3.33	0.84
Industriousness	3.53	0.54	Trust	4.25	0.61
Traditionality	3.05	0.42	Harm	4.23	0.54

*Note.* CAC = Conscientiousness Adjective Checklist; CCS = Chernyshenko Conscientiousness Scales; PANAS-X = Positive and Negative Affect Schedule, Expanded Form; SSGS = State Shame and Guilt Scale; TOSCA-3 = Test of Self-Conscious Affect-3; DCQ = Dimensions of Conscience Questionnaire.

were significantly correlated with one another; SSGS guilt was related to state and trait measures of PANAS-X guilt ( $r = .60$  and  $r = .54$ , respectively), and the two PANAS-X guilt scales were strongly correlated at  $r = .75$ . For guilt proneness, TOSCA guilt was significantly related to general DCQ guilt ( $r = .48$ ) as well as to the three DCQ guilt subscales ( $r$ s ranged from  $.33$  to  $.48$ ). Additionally, the average correlation between measures of guilt experience and measures of guilt proneness was  $r = -.02$ .

### *Experience of Guilt*

Results for the association between overall Conscientiousness and the experience of guilt replicated meta-analytic results from Study 1. Both overall CAC Conscientiousness and overall CCS Conscientiousness showed significant negative correlations with both state and trait measures of the experience of guilt ( $r$ s ranged from  $-.27$  to  $-.42$ ). These results can be viewed in Table 3.

Interestingly, no specific facets of Conscientiousness were more strongly related to the experience of guilt than others. The vast

**Table 3**  
Correlations Between Conscientiousness and  
Experience of Guilt

Conscientiousness	SSGS <sup>a</sup>		PANAS-X Guilt Scale <sup>b</sup>		<i>M</i>
	State	State	Trait		
CAC overall	-.33*	-.42*	-.39*		-.38
Reliability	-.37*	-.42*	-.41*		-.40
Orderliness	-.24*	-.36*	-.30*		-.30
Impulse control	-.34*	-.40*	-.42*		-.39
Industriousness	-.26*	-.37*	-.31*		-.31
Conventionality	-.05	-.08	-.05		-.06
CCS overall	-.30*	-.27*	-.27*		-.28
Responsibility	-.30*	-.19*	-.30*		-.26
Order	-.21*	-.18*	-.20*		-.20
Self-control	-.15	-.23*	-.21*		-.20
Industriousness	-.33*	-.33*	-.28*		-.31
Traditionality	-.07	-.02	.02		-.04
<i>M</i>	-.25	-.27	-.26		

*Note.* SSGS = State Shame and Guilt Scale; PANAS-X = Positive and Negative Affect Schedule, Expanded Form; CAC = Conscientiousness Adjective Checklist; CCS = Chernyshenko Conscientiousness Scales.

<sup>a</sup>Item-based measure. <sup>b</sup>Adjective-based measure.

\* $p < .05$ .

majority of Conscientiousness facets showed significant negative correlations with all three guilt experience measures (see Table 3). On the other hand, one domain of Conscientiousness, conventionality (described by items such as “traditional” [CAC] and “I support long-established rules and traditions” [CCS]), was relatively unrelated to the experience of guilt. The CAC facet of conventionality, along with its parallel CCS facet of traditionality,<sup>4</sup> was not significantly correlated with the experience of guilt, with *r*s ranging from  $-.02$  to  $-.08$  (all *ns*).

4. Conventionality represents a blend of Conscientiousness and low Openness to Experience (Roberts, Bogg, Walton, Chernyshenko, & Stark, 2004) and has often been incorrectly placed within the domain of Openness (Roberts et al., 2009). However, conventionality has been shown to be more highly related to Conscientiousness than to Openness (Roberts et al., 2004; Roberts, Chernyshenko, Stark, & Goldberg, 2005).

*Guilt Proneness*

Results for overall Conscientiousness and proneness to guilt also replicated results from Study 1. Both the CAC and CCS showed significant positive correlations with guilt proneness. Correlations for overall CAC Conscientiousness and guilt proneness ranged from  $r = .10$  to  $.28$ , and overall CCS Conscientiousness and guilt proneness ranged from  $r = .18$  to  $r = .39$  (see Table 4).

Table 4 shows that facet results for guilt proneness revealed significant positive correlations in most cases, with no specific facet of Conscientiousness being more strongly associated with guilt proneness. However, as in the associations with the experience of guilt, conventionality appears to be the least related to proneness to guilt.

**Table 4**  
Correlations Between Conscientiousness and Guilt Proneness

Conscientiousness	TOSCA	DCQ				<i>M</i>
		Impersonal	Harm	Trust	Overall	
CAC overall	.28*	.27*	.21*	.10	.27*	.23
Reliability	.34*	.18*	.31*	.20*	.20*	.25
Orderliness	.11	.08	.08	.17	.17	.12
Impulse control	.24*	.22*	.31*	.37*	.37*	.30
Industriousness	.23*	.13	.16	.15	.15	.16
Conventionality	.15	.25*	-.01	.14	.14	.13
CCS overall	.39*	.37*	.32*	.18*	.39*	.33
Responsibility	.49*	.23*	.37*	.30*	.34*	.35
Order	.15	.20*	.17*	.04	.19*	.15
Self-control	.23*	.37*	.24*	.20*	.36*	.28
Industriousness	.37*	.17*	.21*	.08	.20*	.26
Traditionality	.26*	.40*	.21*	.13	.36*	.27
<i>M</i>	.27	.24	.22	.17	.26	

*Note.* TOSCA = Test of Self-Conscious Affect; DCQ = Dimensions of Conscience Questionnaire; CAC = Conscientiousness Adjective Checklist; CCS = Chernyshenko Conscientiousness Scales. Both measures of guilt proneness are scenario based.

\* $p < .05$ .

*General Conscientiousness Versus Facets*

We also formally tested whether any facets of Conscientiousness contributed any unique variance above and beyond general Conscientiousness to the relationship with guilt experience and guilt proneness. A latent trait of Conscientiousness was constructed for both Conscientiousness scales, with the latent trait predicting each of the five facets of Conscientiousness. We also created latent trait models for PANAS-X guilt, SSGS guilt, TOSCA guilt, and DCQ guilt, with the latent trait predicting the items for each respective scale. Testing each Conscientiousness scale with each self-conscious affect scale separately, we held constant the correlation between latent Conscientiousness and each latent emotion measure while correlating the residual for each Conscientiousness facet with the latent emotion measure.

In most cases, the paths from facet residuals to guilt were not significant, but in some cases these paths became significant in the opposite direction from what one would expect (e.g., a positive relation between responsibility and experience of guilt). These results appear to be primarily artifacts of the high correlations between the manifest scales and the latent trait of Conscientiousness rather than representing any meaningful results. Model fit was approximately equal across all models (average CFI = .87, average RMSEA = .07). Across both Conscientiousness measures and all guilt measures, we found no interpretable pattern of results to suggest that any particular facet of Conscientiousness holds a relationship to guilt experience or guilt proneness above that of a general Conscientiousness factor.

*Overlap With Extraversion and Neuroticism*

In order to test whether the association between Conscientiousness and affect is the result of overlap with Extraversion and Neuroticism, we tested whether Conscientiousness provided any incremental validity over and above Extraversion and Neuroticism in predicting the experience of guilt. We used a regression equation entering CAC Extraversion and CAC Neuroticism in the first step, with CAC Conscientiousness in the second step, using PANAS-X trait guilt as the criterion variable. Results supported the hypothesis that the association between Conscientiousness and guilt experience is not a result of overlap with Extraversion and Neuroticism. Conscientiousness

remained a significant predictor of trait guilt experience while controlling for Extraversion and Neuroticism ( $\beta = -.37, p < .05$ ).

*Does Guilt Mediate the Conscientiousness–Negative Affect Relation?*

We conducted a mediation analysis identical to that in Study 1 in order to test whether guilt experience mediated the relation between Conscientiousness and the experience of overall negative affect in the current sample. As in Study 1, negative affect without guilt was calculated using the original PANAS-X Negative Affect scale, with the exclusion of the items “guilty” and “ashamed.” Zero-order correlations between CAC Conscientiousness and negative affect without guilt and PANAS-X guilt were  $r = -.36$  and  $r = -.48$ , respectively (both  $p < .05$ ). Parallel findings for CCS Conscientiousness and negative affect without guilt and PANAS-X guilt were  $r = -.21$  and  $r = -.30$ , respectively (both  $p < .05$ ), and the correlation between negative affect without guilt and PANAS-X guilt was  $r = .78$  ( $p < .05$ ). Across both Conscientiousness scales, we replicated the finding from Study 1 that guilt experience mediated the relationship between Conscientiousness and negative affect. PANAS-X guilt fully mediated the correlation between CAC Conscientiousness and negative affect without guilt ( $r = .01, p = .90$ ; Sobel  $z = -5.23, p < .05$ ), and results were similar for CCS Conscientiousness and negative affect without guilt ( $r = .04, p = .69$ ; Sobel  $z = -3.20, p < .05$ ).

Similarly, we replicated the finding from Study 1 that hostility did not account for the relation between Conscientiousness and negative affect. CCS Conscientiousness was not significantly related to the proposed mediator, trait hostility ( $r = -.16, p = .09$ ), so we only tested the mediation model using CAC Conscientiousness. Conscientiousness was significantly related to trait hostility ( $r = -.26$ ) and to negative affect without hostility ( $r = -.34$ ), and hostility and negative affect without hostility were correlated at  $r = .71$  (all  $ps < .05$ ). Hostility was a significant partial mediator of the relation between Conscientiousness and negative affect without hostility (Sobel  $z = -2.76, p < .05$ ), and the partial correlation between Conscientiousness and negative affect without hostility remained sizable and significant when controlling for hostility ( $r = -.22, p < .05$ ). Thus, although hostility did partially mediate the relation between Conscientiousness and negative affect without hostility, guilt showed a much stronger mediation effect.

### Discussion

These results replicated the finding from Study 1 that, in general, conscientious individuals experience less guilt on average, yet they are also prone to experience guilt if they commit some form of transgression. In addition to this general finding, these results show that no particular facet of Conscientiousness accounted for these relationships. Rather, Conscientiousness taken as a whole seems to be more important than any specific aspect of this personality trait. Although no individual facets emerged as particularly important, one aspect of Conscientiousness, conventionality, emerged as uncorrelated with the experience of guilt and guilt proneness. Thus, upholding traditions and promoting rules seem to have little bearing on how much guilt a person will experience.<sup>5</sup> One possibility is that the lack of relation between conventionality and the experience of guilt reflects the fact that conventionality is less strongly linked to either interpersonal or achievement-related transgressions than the other facets of Conscientiousness.

Another important finding from this study is that the association between Conscientiousness and guilt experience cannot be attributed to Extraversion and Neuroticism. Thus, we can conclude that there is a genuine and meaningful relationship between Conscientiousness and guilt, which provides strength to the conclusions drawn from Study 1. Finally, the current data were used to replicate the findings from Study 1 that guilt experience (but not anger experience) fully mediates the association between Conscientiousness and negative affect. Across two different measures of Conscientiousness, the experience of guilt accounted for the relationship between Conscientiousness and negative affect; we did not observe as strong of an effect for anger.

### STUDY 3

Studies 1 and 2 showed that guilt plays a significant role in the relation between Conscientiousness and negative affect. However,

5. In East Asian cultures in which conventionality and tradition are emphasized more strongly than in Western cultures, it is possible that there might be a stronger relation between conventionality and guilt. In these cultures, upholding traditions may serve to help individuals avoid experiencing guilt or shame (Heine, Lehman, Markus, & Kitayama, 1999). However, this question is beyond the scope of the current data.

both Studies 1 and 2 relied on cross-sectional, static data, which fail to reveal the processes through which this relation plays out in the day-to-day lives of individuals. Therefore, in Study 3, we examined the interplay of Conscientiousness and guilt in the academic context. Specifically, we tracked Conscientiousness and guilt as students took two exams over the course of a semester. We focused on exam experiences because Conscientiousness is related to academic performance (Noftle & Robins, 2007) and because poor performance often evokes feelings of guilt. We tracked performance across two exams to test the potential reparative effect of guilt. Presumably, students who did worse than expected on the first exam should feel guiltier and be motivated to make amends (i.e., improve their performance) on the subsequent exam.

Although we know of no previous study examining the interplay among Conscientiousness, guilt, and achievement, there are related studies that inform what role Conscientiousness would play in this study. Building on the findings of Studies 1 and 2, it would be reasonable to expect exam-related guilt to serve as a mediator between Conscientiousness and performance, just as guilt was a mediator between Conscientiousness and negative affect. However, in some cases Conscientiousness is not a simple additive predictor but serves as a moderator of the intervening variable. For example, previous research has shown that Conscientiousness moderates the effect of positive affect on emotional exhaustion, job tension, and job burnout (Zellars, Perrewe, Hochwarter, & Anderson, 2006). Positive affect was a much stronger predictor of these variables for people high in Conscientiousness. Another study found an interactive effect for Conscientiousness and work stressors in predicting counterproductive work behaviors (Bowling & Eschleman, 2010). In that study, individuals high in Conscientiousness who experienced several types of work stressors were less likely to perform counterproductive work behaviors than were individuals low in Conscientiousness.

Study 3 therefore aimed to extend the findings from Studies 1 and 2 by examining the process through which Conscientiousness and guilt relate to achievement outcomes. We tested two potential mechanisms: (1) whether guilt mediated the influence of Conscientiousness on exam performance and (2) whether Conscientiousness moderated the relation between experiencing guilt and achieving better grades.

## Method

### *Participants*

Participants were 176 undergraduate students who participated in exchange for class credit. However, 10 participants dropped the course after the first exam and another 12 did not complete all of the measures. The resulting sample of 154 participants consisted of 58 males and 96 females ranging in age from 18 to 25, with a mean age of 19.1 ( $SD = 1.21$ ). Participants' race/ethnicity was reported as 5.2% African American, 20.8% Asian, 70.1% Caucasian, 3.2% Hispanic, and 0.6% Native American.

### *Measures*

*Conscientiousness.* Conscientiousness was assessed using the CCS (Chernyshenko, 2003). The CCS is described in Study 2. Reliability for overall Conscientiousness was  $\alpha = .90$ .

*Guilt experience.* We used the Guilt subscale of the PANAS-X (Watson & Clark, 1999) in two forms: a trait version and an exam-specific version. As in Study 2, the trait version assessed the extent to which participants experienced negative self-conscious affect generally or typically. The exam-specific version of this measure asked participants to rate each affect term with regard to how they felt about their performance on the most recent exam in the course. Reliability for trait guilt was  $\alpha = .86$ , and  $\alpha = .93$  for exam-specific guilt.

*Exams.* Participants completed two midterm exams to fulfill their normal course requirements. KR-21 internal consistency reliabilities for each exam were .72 and .73, respectively. Means and standard deviations for these exams can be found in Table 5.

### *Procedure*

After taking their first exam, participants completed measures of trait Conscientiousness and trait guilt experience using the CCS and PANAS-X. Following this, participants completed an exam-specific measure of guilt experience that instructed them to respond in reference to feelings about their grades on their first exam. Approximately 4 weeks after the initial assessment of Conscientiousness and guilt (both general and exam-specific), the students took the second exam. By agreeing to participate in the study, participants authorized the researchers to gain

**Table 5**  
**Descriptive Statistics and Correlations Among**  
**Conscientiousness, Affect, and Exam Scores**

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. CCS Conscientiousness	2.82	0.28	—				
2. Trait PANAS-X guilt	1.65	0.71	-.20*	—			
3. Exam 1 PANAS-X guilt	1.96	1.03	-.04	.32*	—		
4. Exam 1 score	82.62	9.43	.05	-.20*	-.57*	—	
5. Exam 2 score	86.68	8.06	.22*	-.13	-.16*	.51*	—

*Note.* CCS = Chernyshenko Conscientiousness Scales; PANAS-X = Positive and Negative Affect Schedule, Expanded Form.

\* $p < .05$ .

access to their actual scores from each exam. Grades for the two exams were retrieved after the conclusion of the semester and final grades had been recorded.

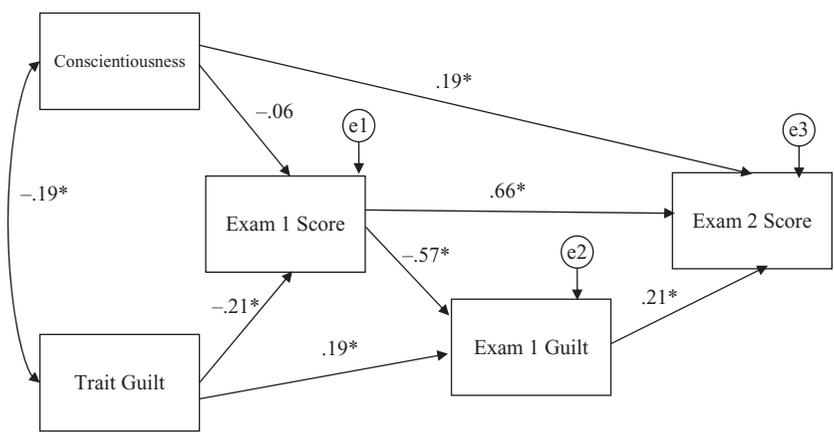
## Results

Descriptive statistics, as well as correlations among Conscientiousness, trait and exam-specific guilt, and exam scores, are shown in Table 5. Consistent with the findings from Studies 1 and 2, trait guilt was negatively associated with Conscientiousness ( $r = -.20$ ). These results replicate the moderate negative correlation between Conscientiousness and the trait experience of guilt obtained in the previous two studies ( $r = -.20$ ). In turn, trait guilt was positively related to exam-specific guilt ( $r = .32$ ), and both trait and exam guilt were negatively related to Exam 1 scores ( $r = -.20$  and  $r = -.57$ , respectively). The large negative relation between exam performance and exam-specific guilt is consistent with the idea that poor performance leads to higher levels of guilt, which should lead to reparative actions on Exam 2. However, the correlation between Exam 1 guilt and Exam 2 scores was negative ( $r = -.16$ ), which is inconsistent with the idea that guilt specific to exam performance would subsequently lead to reparative behavior. Also inconsistent with the implied mediational process, Conscientiousness was unrelated to exam-specific guilt. Finally, Conscientiousness was not correlated with Exam 1 scores ( $r = .05$ ) but was significantly and positively related to Exam 2 scores ( $r = .22$ ). This mix of correlations clearly undermines a

straightforward mediational model in which exam-specific guilt would serve as an intervening variable between Conscientiousness and Exam 2 performance.

Before testing several alternative mediational effects, we tested two potential moderator paths: the interactive effect of Conscientiousness and trait guilt on Exam 1 scores, and the interactive effect of Conscientiousness and exam-specific guilt on Exam 2 performance. To test these effects, we first converted Conscientiousness, trait guilt, Exam 1 guilt, and Exams 1 and 2 scores into standard scores. We used multiple regression to test the interaction between Conscientiousness and trait guilt and found that Conscientiousness did not moderate the effect of trait guilt on Exam 1 scores ( $\beta = -.09$ , *ns*). Next, we tested whether Conscientiousness moderated the effect of experiencing guilt about Exam 1 on Exam 2 performance in two ways. We first tested the interaction between Conscientiousness and Exam 1 guilt and then repeated this analysis using stepwise multiple regression, with the addition of controlling for trait guilt and Exam 1 scores in Step 1. We did not find significant moderation in either case ( $\beta_s = -.04$  and  $-.03$ , respectively, both *ns*).

Given the complexity of the associations shown in Table 5, we decided to construct a path model that reflected the assumed mediation process (see Figure 1). We specified that Conscientiousness was an antecedent to trait guilt, which in turn predicted Exam 1



**Figure 1**  
**Process model depicting exam scores as a function of Conscientiousness and trait guilt. \* $p < .05$ .**

performance and Exam 1 guilt. We also specified that Exam 1 performance predicted Exam 1 guilt, which in turn was used to predict Exam 2 performance. Interestingly, when we controlled for trait guilt and baseline performance, the expected positive relation between experiencing exam-specific guilt and Exam 2 performance emerged ( $\beta = .21$ ). In this model (see Figure 1), there are multiple points of potential mediation. Therefore, we tested several mediational pathways using Preacher and Hayes's (2008) method for multiple mediation analysis, allowing us to control for covariates in the path model. The nonsignificant relation between Conscientiousness and Exam 1 scores precluded testing whether trait guilt mediated the relation between Conscientiousness and Exam 1 performance. We then tested whether Exam 1 performance mediated the relation between trait guilt and Exam 1 guilt, while controlling for Conscientiousness. We found a significant mediation effect for Exam 1 scores ( $\beta = .18$ ,  $p < .05$ ). We also tested whether Exam 1 guilt mediated the relation between Exam 1 performance and Exam 2 performance, while controlling for Conscientiousness and trait guilt, and found that Exam 1 guilt significantly mediated the relation between Exams 1 and 2 ( $\beta = -.10$ ,  $p < .05$ ). Despite these effects, it should be noted that exam-specific guilt did not mediate the effect of Conscientiousness on Exam 2 scores; when controlling for trait guilt and Exam 1 scores, the indirect effect was not significant ( $\beta = .16$ ,  $p > .05$ ). Rather, the effect of Conscientiousness on Exam 2 performance was direct and unmediated ( $\beta = 5.05$ ,  $p < .05$ ).

### Discussion

Although we did not find evidence for either a straightforward mediation or moderation process in this study, there were some unexpected and interesting findings. Examining the overall set of variables, including Conscientiousness, trait guilt, exam-specific guilt, and exam performance, demonstrated how Conscientiousness and guilt experiences work together to produce achievement behaviors. When taking into account the influences of Conscientiousness and trait guilt, higher levels of guilt about participants' first exam led to better performance on their second exam. This result may highlight part of the process by which conscientious individuals maintain their conscientious behaviors. By engaging in behaviors associated with lower Conscientiousness, such as poor performance on an exam, conscientious individuals will experience more guilt.

Experiencing guilt should, in turn, activate reparative tendencies that lead individuals to engage in conscientious behaviors.

Despite finding some evidence for the reparative process, the most conspicuous finding was the nontrivial correlation between Conscientiousness and trait guilt. This finding highlights the need to embed process methods within the context of more global models of personality. Specifically, one inference that can be drawn from this large correlation is that the modal “process” through which Conscientiousness is related to lower negative affect is through avoiding guilt-inducing experiences, such as earning a low score on an exam, in the first place. Thus, the most common pattern would be for conscientious people to avoid lower-than-expected achievement, and by doing so obviate the need to both experience guilt and then repair a problematic situation.

## GENERAL DISCUSSION

In the three studies reported in this article, we investigated the relationship between Conscientiousness and negative emotion, with particular emphasis on the relationship between Conscientiousness and guilt. In Study 1, we sought to verify that a relation existed between Conscientiousness and negative emotion and to outline which emotions were primarily associated with Conscientiousness. Using a meta-analytic approach, we found that Conscientiousness is indeed related to emotions, both basic and self-conscious, as well as overall negative affect. Specifically, Conscientiousness was negatively related to experiencing guilt and positively related to guilt proneness. Moreover, primary data from the meta-analysis revealed that guilt experience mediated the relation between Conscientiousness and negative affect. Finally, we found that other basic emotions, such as anger, did not mediate the relation between Conscientiousness and negative affect.

Study 2 addressed four specific goals that built on the findings from Study 1. First, we replicated results from Study 1 showing that both measures of overall Conscientiousness were associated with a less frequent experience of guilt. At the facet level, only conventionality/traditionality was not significantly related to the experience of emotion. Second, as in Study 1, we also found that while conscientious individuals experienced less guilt, these

individuals had a higher propensity to experience guilt in emotion-eliciting situations. Third, we replicated the finding from Study 1 that guilt experience mediated the relation between Conscientiousness and negative affect. Finally, we investigated whether the relation between Conscientiousness and emotion was an artifact produced by overlap with Extraversion and Neuroticism. Results indicated that Conscientiousness and guilt experience maintained a significant relationship above and beyond any variance contributed by Extraversion and Neuroticism.

Study 3 built on the information obtained in Studies 1 and 2 to examine the relationship between Conscientiousness and guilt in a real-life situation. We examined the interplay among Conscientiousness, trait guilt, exam performance, and exam-related guilt in an undergraduate academic setting. Results from the model indicated that Exam 1 performance was a function of trait guilt: Students who experienced greater trait guilt scored lower on their first exams. Lower scores on Exam 1 also resulted in higher levels of exam-related guilt. Subsequently, elevated levels of guilt about the first exam resulted in higher scores on the second exam, only when controlling for trait guilt. Study 3 importantly shows how Conscientiousness and trait levels of guilt work in conjunction to influence achievement outcomes.

The most likely reason for the discrepancy between the raw correlations and the path model in Study 3 has to do with what exam-specific guilt measures. It is clear from the correlations that a significant component of the exam-specific guilt reflects general, trait levels of guilt experience. Trait levels of guilt most likely reflect strong, persistent tendencies to view achievement situations with anxiety, which is known to undermine exam performance (e.g., Sarason, 1984). The reparative function of guilt is not reflected in the trait-level assessment of the construct, but rather in the state-level processes that are engaged when tracking actual experiences over time. It is clear from the raw correlations that even state-like measures are contaminated with trait guilt variance. Only when we controlled for the trait-level variance did the reparative effect emerge. This points out an important caveat to the general model of guilt serving a reparative role. It may be necessary to control for trait-level variance of guilt to see these types of effects emerge.

Taken together, these studies highlight the importance of systematically studying all three components of any given personality trait.

Ostensibly, the trait domain of Conscientiousness is devoid of obvious affective links. However, these three studies show that Conscientiousness is not devoid of emotional relevance. The current series of studies sets up a framework for studying Conscientiousness and emotions: first, by establishing that Conscientiousness is related to emotional content, specifically guilt experience and guilt proneness; second, by elaborating in more detail the ways in which Conscientiousness is related to different types of emotional experience as well as which aspects of Conscientiousness are more predictive of these emotions; and third, by investigating how Conscientiousness, guilt, and life experiences interact to produce behavior. Acknowledging the relation between Conscientiousness and emotion may provide greater understanding of the processes influencing important life outcomes—in this case, achievement. It will be informative for future studies in this area to investigate similar models in other important domains of life, such as interpersonal relationships, adherence to health regimens, and religiosity.

### **Limitations, Future Directions, and Conclusions**

Although the current studies are not without limitations, we attempted to resolve some of these limitations within subsequent studies when possible. In Study 1, we were able to include only limited amounts of data in the meta-analysis, especially for the basic emotions. This is because although there are many studies that include correlations for Conscientiousness and overall positive and negative affect and a few that include other basic emotions, we intentionally considered only studies that included measurements of guilt. Previous meta-analyses (e.g., DeNeve & Cooper, 1998) have examined in detail the relation between Conscientiousness and positive and negative affect, and the results obtained in the current meta-analysis mirrored the results found by previous studies. Thus, we do not feel that the limited amount of data for basic emotions in this study was in any way detrimental to our results.

Another limitation of Study 1 was that we only had access to data from broad measures of Conscientiousness, with no information regarding narrower facets of Conscientiousness. We attempted to remedy this in Study 2 by using more extensive measures of Conscientiousness that included specific facet scales. However, since the primary focus of Study 2 was on the lower order structure of Conscientiousness, our measures of Extraversion and Neuroticism were

less extensive. Despite not being as lengthy, we found high reliabilities for both Extraversion and Neuroticism, and thus have confidence in our results involving these personality traits. One additional improvement that should be considered is the assessment of Conscientiousness using alternatives to self-reports, such as observer ratings (Lodi-Smith et al., 2010). It is often the case that assessing constructs using alternative methods provides incremental explanations of outcomes, such as achievement or health.

An additional limitation for Studies 1 and 2 was that the experience of guilt and guilt proneness employed different measurement approaches; namely, guilt experience measures rely on mood ratings, whereas guilt proneness used responses to hypothetical scenarios. These differences may make it difficult to compare these constructs. It would be useful for future studies to utilize similar measurement strategies to assess experience of and proneness to guilt in order to explicate the association between these constructs.

Finally, Study 3 provided interesting information at a process level as well as at a trait level of analysis. Of course, a longer time interval and more varied and distinct events would provide necessary confirmation that Conscientiousness plays a role in the reparative nature of the experience of guilt. It is also possible that participants' improvement from Exam 1 to Exam 2 could be due to practice effects rather than being evidence of a reparative process. More concrete measurement of reparative behaviors, such as studying more for one's next exam, would provide greater clarity on the exact role of Conscientiousness in the reparative process.

The next steps in this line of research should be to expand on the current studies by examining the effects of Conscientiousness and guilt on other domains of behavior. One fruitful area may be interpersonal relationships, as Conscientiousness is associated with better relations with others (Jensen-Campbell & Malcolm, 2007) and guilt has a strongly interpersonal nature (Baumeister, Stillwell, & Heatherton, 1994). The relation between Conscientiousness and guilt may also elucidate the process by which conscientious individuals maintain better health behaviors (Bogg & Roberts, 2004). Another important step will be to more clearly outline the process by which Conscientiousness and guilt influence behavior through measurement of specific reparative behaviors. Additionally, although we found evidence for a self-regulatory effect for guilt, there may be other self-regulatory processes that influence the relation between

Conscientiousness and positive life outcomes. Finally, it would be worthwhile to examine whether other emotions, such as anger, might account for the relation between Conscientiousness and negative affect under certain circumstances; for example, conscientious people who are confronted with others' low Conscientiousness may become angry, and this may account for their experience of negative affect.

The series of studies reported here indicates that Conscientiousness is related to emotions, especially to guilt, and that this relationship has important implications for behavior. These results highlight the importance of understanding the structure of all three components of personality traits—thoughts, feelings, and behaviors—and how these components work together. Considering all three aspects of personality will be essential for a comprehensive understanding of personality traits and their effect on significant life outcomes.

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