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Personality and moral judgment: Curious consequentialists and polite deontologists

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ABSTRACT

Objective: How does our personality relate to the ways in which we judge right from wrong? Drawing on influential theories of moral judgment, we identify candidate traits that may be linked with inclinations toward (a) *consequentialist* judgments (i.e., those based on the *outcomes* of an action) and (b) *deontological* judgments (i.e., those based on the alignment of an action with particular moral *rules*).

Method: Across two studies (total $N = 843$), we examined domains and aspects of the Big Five in relation to inclinations toward consequentialist and deontological judgments.

Results: In both studies, we found a unique association between intellect (curiosity, cognitive engagement) and consequentialist inclinations, in line with the view that deliberative cognitive processes drive such inclinations. We also found a consistent unique association between politeness (respectfulness, etiquette) and deontological inclinations, in line with the view that norm-adherence drives such inclinations. Neither study yielded a significant unique relation between deontological inclinations and compassion (sympathy, empathic concern)—or any other emotion-infused trait (e.g., neuroticism)—as would be expected based on emotion-centered views of deontological moral judgment.

Conclusions: These findings have implications for theories of moral judgment, and reveal how our personality guides our approach to questions of ethics and morality.

Key words: Moral judgment; Personality; Consequentialism; Deontology; Big Five

Personality and moral judgment: Curious consequentialists and polite deontologists

Overview

There is growing evidence that our personalities frame our social, political, and moral worldviews. For example, basic traits within the "Big Five" personality taxonomy (John, Soto & Naumann, 2008) show robust associations with political orientation and voting preferences (Garretsen, Stoker, Soudis, Martin, & Rentfrow, 2018; Hirsh, DeYoung, Xu, & Peterson, 2010), prejudice (Perry & Sibley, 2012; Sibley & Duckit, 2008), cooperation and other forms of prosocial behavior (Ferguson, Zhao, & Smillie, 2020; Smillie, Lawn, Zhao, Perry, & Laham, 2019), and moral values (Hirsh et al. 2010; Lewis & Bates, 2011). In the present studies we examine how these basic traits may influence moral judgments. Specifically, we examine links between personality and inclinations towards judgments consistent either *consequentialism* (i.e., where the morality of an action is determined by its resultant outcomes) or non-consequentialism or *deontology* (i.e., where the morality of an action is determined not by its consequences, but by the properties of the action itself or its consistency with rules grounded in duties or rights).

Drawing on Greene and colleagues' Dual Process Model (DPM) of moral judgment (Green, 2007; Greene, Nystrom, Engell, Darley, & Cohen, 2004; Green, Sommerville, Nystrom, Darley, & Cohen, 2001), alongside other theoretical perspectives (e.g., Baron, 1994, 2012), we focus our investigation on three trait *aspects* of the Big Five *domains* (DeYoung, Quilty, & Peterson, 2007): the intellect aspect of openness/intellect, and the compassion and politeness aspects of agreeableness. In doing so, we build on a budding literature (e.g., Kroneisen & Heck, 2020; Smillie et al., 2019) that has begun to explore how personality traits may guide the way people approach ethical questions and resolve moral dilemmas.

Moral Judgment and the Dual Process Model

Moral judgments are evaluations of the rightness or wrongness of a given action. In philosophy, many normative theories of ethics can be broadly characterized by one of two overarching frameworks. The first, *consequentialism*, holds that the morality of an action depends on the goodness or badness of the effects or outcomes of that action (Bentham, 1789/2007; Hare, 1982; Mill, 1861/1998). On this account, telling a lie is immoral if the net consequences of that lie are negative, but morally permissible—if not obligatory—if they are

positive. Although there are numerous forms of consequentialism, the nominal focus of much theorizing in moral psychology has been on "utilitarianism", which grounds morality in maximizing aggregate welfare from an impartial standpoint. However, we adopt the less restrictive *consequentialism* given recent insights that commonly used paradigms in this literature may not adequately capture utilitarianism (see Kahane et al, 2018). The second framework, *deontology* (or, more broadly, *non-consequentialism*), holds that morality hinges on rules pertaining to specific rights and duties, and that the alignment of an action with these rights and duties determines its inherent rightness or wrongness (Kant, 1785/1959). It is important to note that deontological theories come in many shades—some agent-centered, others patient-centered, and some grounded in rights versus duties and obligations. We therefore use "deontology" to refer to non-consequentialism in its broadest sense. For example, we may have a duty to be truthful and the right to not be deceived, and thus lying might be inherently wrong *regardless of the consequences*.

Whereas moral philosophers are concerned with the defensibility of frameworks such as deontology and consequentialism as a basis for morality (i.e., seeking normative accounts of what we *ought* to do), moral psychologists seek to describe and understand the extent to which our judgments align with the core principles of these frameworks (i.e., seeking descriptive accounts of what we *actually* do, and *why*). To what degree do people make moral judgments that are aligned with deontology or consequentialism, and what are the psychological processes that underlie such judgments? Perhaps the most influential theory in this area is Greene and colleagues' Dual Process Model (DPM; Green, 2007; Green et al., 2001, 2004). This holds that consequentialist judgments (usually described as "utilitarian" judgments) are driven by deliberative "cognitive" process involving reflection, evaluation, and a cost-benefit-analysis of the action in question. In early work supporting this view, judgments deemed "utilitarian" by researchers were linked with activity in executive regions of the brain, such as the dorsolateral prefrontal cortex (Greene et al., 2001), and were impacted by the application of a cognitive load (Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008). Conversely, the DPM holds that deontological judgments result from fast, automatic, "emotion" processes characterized by feelings of "pity" or "sympathy" (Greene, 2007, pp.41-50). Putative evidence for this idea includes the finding that deontological judgments are linked with activity in emotion-processing regions of the brain, such as the amygdala, and are made more rapidly than

consequentialist judgments (Greene et al., 2001; Green et al., 2004). Although latter research has cast some doubt on the primary evidence base supporting the DPM (e.g., Bago & Neys, 2019; Burco & Baron, 2017; Kahane & Shackel, 2010; Trémolière & Bonnefon, 2014), it nevertheless remains an influential perspective on the psychology of moral judgment.

Because nomothetic theories of psychological processes have (often unstated) implications for individual differences in those processes (see Underwood, 1975), we can draw on theories such as the DPM to derive predictions concerning the personality trait correlates of moral judgment. Specifically, if deliberative "cognitive" processes do indeed drive moral judgments consistent with consequentialism, then we would expect traits capturing the proclivity for cognitive reflection and engagement to predict stronger consequentialist inclinations. Similarly, if non-consequentialist, deontological moral judgments are indeed the result of fast "emotional" reactions—characterized by other-regarding sentiments such as pity or sympathy—then we would expect traits that capture a susceptibility to such emotions to predict stronger deontological inclinations. In line with these inferences, some research reveals that personality traits describing cognitive reflection and engagement predict stronger consequentialist inclinations, whereas empathy-related traits predict stronger deontological inclinations (e.g., Choe & Min, 2011, Conway & Gawronski, 2013; Gleichgerrcht & Young, 2013; Paxton, Ungar, & Greene, 2011). However, this literature is somewhat fragmented, with different researchers favoring different definitions, methods, and measures, and some failing to replicate the aforementioned findings (e.g., Baron, Scott, Fincher, & Metz, 2015; Baron, Burcu, & Luce, 2018; Royzman, Landy, & Leeman, 2015). In a recent and comprehensive study of personality and moral judgment, Kroneisen and Heck (2020) found that Honesty-Humility, from the HEXACO personality taxonomy (Ashton & Lee, 2007), predicted moral judgments aligned with deontology. Conversely, HEXACO Emotionality—which blends negative affect, sentimentality, and social dependence—predicted moral judgments aligned with consequentialism. Seeking to build on this recent work using the HEXACO framework, we identified traits within the hierarchically organized Big Five taxonomy that may be likely to predict moral judgment.

Are Deontological Judgments "Emotional"?

The notion that alarm-like emotional reactions drive deontological judgments is consistent with a broader psychological literature concerning the role of emotion and intuition

in moral judgment (e.g., Haidt, 2001; Ward & King, 2017). On the other hand, this view of deontology departs sharply from some philosophical accounts, including Kant's original descriptions of such judgments as "based not on feelings but on reason" (Pojman, 1995, p. 255). It also diverges from alternate psychological perspectives that emphasize the role of rules and social norms in moral thinking. For example, Baron (1994, 2012) has argued that deontological judgments are based on heuristic processes that do not necessarily involve emotion. Somewhat similarly, Nichols and colleagues have argued that emotion-based accounts of moral judgment, including the DPM, neglect the role of adherence to salient social norms (Mallon & Nichols, 2010; Nichols & Mallon, 2006). A person may judge lying to be wrong—regardless of the consequences—primarily out of respect for societal disapproval of lying. This is readily understood in the context of moral development, whereby children learn moral rules from socially-significant others precisely because they do *not* automatically feel or intuit any wrongness (Baron, 2012; Garrigan, Adlamb & Langdon, 2018). Crucially, such perspectives on deontology place no special importance on aversive emotional responses[1].

Given these alternate perspectives, it is worth noting that much of the apparent support for the DPM's emotion-centered view of deontology is quite ambiguous. For example, the finding that deontological judgments are made more swiftly than consequentialist judgments indicates little, if anything, about the role of emotion. Moreover, since Greene and colleagues (2001) originally reported these findings, re-analyses show that the specific pattern of results they obtained was driven by idiosyncratic stimulus characteristics, and may not be reliable or generalizable (McGuire, Langdon, Coltheart, & Mackenzie, 2009; also see Bago & De Nays, 2019). Neural data linking deontological judgments with emotion processing brain regions may seem more persuasive, but it is simplistic to attribute any one psychological function to any one brain region (Poldrack, 2006). The amygdala, for instance, is widely regarded as an emotion-processing module, but may have other functions that are potentially affect free. Intriguingly, such functions include processing socially-salient information (Sander, Grafman, & Zalla, 2003) and tracking rule-based behavior in other individuals (Corradi-Dell'Acqua, Turri,

[1] Another relevant framework is the Consequences-Norms-Inaction (CNI) model of Garwronski and colleagues (e.g., Gawronski, Armstrong, Conway, Friesdorf, & Hütter, 2017; Gawronski, Conway, Armstrong, Friesdorf, & Hütter, 2018), who directly define deontological judgments in terms of adherence to moral norms. However, these researchers emphasise that their model is descriptive rather than mechanistic, and explicitly allow for the possibility that adherence to moral norms may be driven by the automatic "emotion" processes specified in the DPM (Gawronsky et al., 2018, p. 992).

Kaufman, Clement, & Schwartz, 2015), both of which may be relevant to norm-based accounts of deontological moral judgment.

Previous findings concerning the personality trait correlates of deontological inclinations are also somewhat ambiguous. For example, some researchers have found associations between empathy, describing one's sensitivity to the emotional states of others, and deontological inclinations (Conway & Gawronski, 2013; Choe & Min, 2011; Gleichgerrcht & Young, 2013; cf, Baron et al., 2018). However, these scales have moderate overlap with other interpersonal tendencies that have less relevance to emotional sensitivity. Within the Big Five, such traits can be grouped under the broad agreeableness *domain*, which can be divided into two narrower *aspects* called compassion and politeness (DeYoung, et al., 2007). Compassion describes interpersonal warmth, kindness, and emotional concern for others, and is comparable to constructs such as sympathy and empathic concern. Politeness, on the other hand, reflects adherence to social rules and norms relating to respect, etiquette, and "good manners". Whereas compassion is epitomized by the proverbial "good Samaritan", who might reach out to help someone in need, politeness aptly describes the "good citizen"—someone who is generally courteous and civil (Zhao, Ferguson, & Smillie, 2017a, 2017b). Because compassion and politeness are closely correlated ($r \sim .50$), effects of one can masquerade as effects of the other (see Zhao et al., 2017a, for discussion). Thus, previously reported links between compassion-related traits and deontological inclinations could potentially have been driven by the associated trait of politeness. Tentative encouragement for this possibility can be drawn from Kroneisen and Heck's (2020) study of personality and moral judgment, in which Honesty-Humility emerged as a consistent predictor of moral judgments more aligned with deontology. This trait describes tendencies toward modesty, fairness, and lack of greed—all of which might be viewed in terms of social etiquette or manners—and converges closely with politeness (versus compassion) in the prediction of prosocial behavior (e.g., Zhao et al., 2017a). This may therefore give credence the view that deontological judgments are underpinned by general norm adherence and respect for social rules, rather than feelings of sympathy or emotional concern.

The Present Research

The theory and research reviewed above can guide predictions about how the domains and aspects of the Big Five may relate to deontological and consequentialist moral inclinations.

First, the putative grounding of consequentialist judgments in deliberative "cognitive" processes suggests inclinations toward such judgments will be predicted by traits describing the tendency to engage in reasoning and cognitive reflection. Such tendencies are aligned with the broad domain of openness/intellect, but especially the intellect aspect of this domain. Intellect describes the desire to explore and understand concepts and ideas, and the tendency to be intellectually curious and cognitively engaged (DeYoung, 2015a, 2015b; Smillie, Varsavsky, Avery, & Perry, 2016). Previous research has already demonstrated an association between analogous personality traits, such as need for cognition, and "utilitarian" inclinations (Conway & Gawronski, 2013). However, other research, employing different measures and methods, has not supported this view (e.g., Kahane et al., 2018). Most recently, Kroneisen and Heck (2020) found no relation between consequentialist inclinations and HEXACO openness to experience. However, this is potentially because the HEXACO variant of this domain is more closely aligned with the openness aspect, rather than the intellect aspect, of the corresponding Big Five domain (see Ludeke et al., 2019).

Next, if deontological judgments arise from automatic "emotion" processes characterized by feelings of sympathy and pity, we might expect the tendency to make such judgments to be related to agreeableness, and especially the compassion aspect of this domain. Indeed, compassion describes "relatively automatic emotional processes, including empathy, caring, and concern for others" (DeYoung, 2015a, p. 46). Although some studies report an association between compassion-related measures and deontological inclinations (e.g., Gleichgerrcht & Young, 2013), other investigations have yielded mixed or ambiguous results (e.g., Baron et al., 2015; Kroneisen & Heck, 2020). Crucially, none of these studies have examined the potential role of traits reflecting norm adherence and etiquette, as captured by the politeness aspect of agreeableness, which "seems likely to involve more voluntary top-down control than does compassion" (DeYoung, 2015a, p. 46). Any unique association between politeness and deontological judgments would seem less indicative of the automatic "emotion" processes described within the DPM, but perhaps more indicative of purposeful compliance with rules and norms surrounding moral behavior. By examining politeness and compassion as simultaneous predictors of deontological moral judgments, we can directly contrast the view of such judgments provided by the DPM with alternative perspectives concerning adherence to salient moral rules (e.g., Baron, 1994, 2012; Nichols & Mallon, 2006).

From the considerations above we derive the following predictions regarding basic personality traits and moral judgment: From the DPM, we hypothesize that (1) trait intellect will predict consequentialist inclinations, whereas (2a) trait compassion will predict deontological inclinations. However, an alternative hypothesis, derived from theories linking deontological judgments with adherence to social rules and norms, is that (2b) trait politeness will predict deontological inclinations. We evaluate these predictions across two studies. Data and analysis scripts from both studies have been placed onto an OSF repository [link masked]. Included are all de-identified data and analysis code, as well as supplementary analyses not reported in the main text. All procedures in both studies were approved by the Human Ethics Advisory Group of the Melbourne School of Psychological Sciences.

Study 1

In much of the research reviewed above, moral judgments have been assessed using classic sacrificial dilemmas, such as the trolley and footbridge problems described by Foot (1967) and Thomson (1976). The former involves a runaway trolley that will kill five people unless a switch is pulled, diverting the trolley onto a track where it will only kill one person. In the latter, there is no switch, but the trolley can be stopped by pushing a large bystander onto the track, blocking the path of the trolley. Both scenarios have been taken to depict a tension between consequentialism (i.e., the moral imperative to sacrifice one life in order to save five) and deontology (i.e., the moral imperative not to kill an innocent bystander). Despite this, most people deem it acceptable to pull a lever to divert the trolley, but *un*acceptable to push the large bystander into the trolley's path. According to Greene (2007, p. 43), this discrepancy can be attributed to the greater emotional salience of physically pushing another human being into harm's way, compared to pulling a lever. In other words, the footbridge dilemma is more likely to trigger the automatic emotional reaction that produces a moral judgment aligned with deontology.

As others have noted (e.g., Gawronski & Beer, 2017; Kahane, 2015), these sacrificial dilemmas have several limitations. Their focus on one very specific context raises questions about generalizability, and their contrived nature compromises ecological validity (Bauman, McGraw, Bartels, & Warren, 2014). They also confound weak deontological inclinations with strong consequentialist inclinations. Despite some support for a unidimensional, bipolar representation of deontology versus consequentialism (Laakasuo & Sundvall, 2016), this

confounding creates demonstrable interpretative ambiguities (see Conway & Gawronski, 2013). Given such concerns, we begin by exploring alternative paradigms for assessing deontological and consequentialist inclinations. In our first study, we use a self-report measure of consequentialist (vs. deontological) thinking to examine participant responses to a range of morally questionable actions (beyond sacrifice), many of which people are likely to encounter in real life (e.g., lying, breaking a promise, engaging in malicious gossip, or breaking the law). This measure therefore offers improved ecological validity and generalizability when compared to the trolley and footbridge problems. On the other hand, it is similarly limited by the confounding of weak deontological inclinations with strong consequentialist inclinations. Our second study therefore attempts to replicate the findings of our first using orthogonal indices of consequentialist and deontological inclinations.

Method

Participants

Participants were 589 adults recruited via Amazon's Mechanical Turk. After removing 24 participants who failed two simple attention checks, the final sample (N = 562) comprised 248 males and 307 females (3 participants identified as neither male nor female, and 4 participants did not report their sex) aged 18-77 (M = 37.31, SD = 11.36; the same 4 participants who did not report their sex also did not report their age). Additional demographic variables collected were highest education level completed (high school, 28%; trade or vocational training, 17%; bachelor's degree, 43%; postgraduate degree, 10%; prefer not to say, 2%), ethnicity (White/Caucasian/European, 76%; Black/African American, 10%; Asian, 9%; Hispanic, 5%; Other, <1%), and annual income (modal response: $30,000-$40,000).

These data were collected as part of a larger project concerning personality, prosociality, and morality, for which the sample size was determined by a fixed research budget. According to a sensitivity analysis within G*Power (Faul, Erdfelder, Lang, & Buchner, 2007), this sample size provides 80% power to detect a significant bivariate correlation as small as r = .15, which is a small-to-medium effect size in personality psychology (i.e., small/medium/large = .10/.20/.30; Gignac & Szodorai, 2016), using a critical alpha of 0.005, our choice of which is explained below. It also provides 80% power to detect a significant regression coefficient with a squared semi-partial correlation of sr^2 = .03 in a model with five

predictors (e.g., the Big Five domains), or sr^2 = .04 in a model with ten predictors (e.g., the Big Five aspects), again using a critical alpha of 0.005.

Measures

Moral Judgment. Inclinations toward deontological versus consequentialist thinking were assessed using the Consequentialist Thinking Scale (CTS; Piazza & Sousa, 2014). This questionnaire describes 14 morally-questionable actions (e.g., killing, lying, breaking a promise, assisting voluntary euthanasia, etc.), and participants must indicate whether each action is *never morally permissible* (deontological choice), *morally permissible* if the action will produce more good than bad (weak consequentialist choice), or *morally obligatory* if the action will produce more good than bad (strong consequentialist choice). An average score (ranging from 1-3) is computed based on responses to the 14 actions, with higher scores reflecting inclinations toward consequentialism versus deontology. Internal consistency of the consequentialist scale in this sample was adequate (α = .85).

Big Five Personality Traits. Participants completed the Big Five Aspect Scales (DeYoung et al., 2007), a 100-item measure of the Big Five trait domains (extraversion, neuroticism, conscientiousness, agreeableness, and openness/intellect), each of which divides into two 10-item aspect-level scales. Our research questions relate most directly to (1) the two aspects of agreeableness, politeness (e.g., *"respect authority"*) and compassion (e.g., *"feel others' emotions"*), and (2) the intellect aspect of openness/intellect (e.g., *"like to solve complex problems"*). Participants indicated how well each of these statements describes them (1 = *strongly disagree*, 5 = *strongly agree*), and all scales were scored as the mean response to each of their constituent items[2]. Internal consistencies of all BFAS scales in this sample were adequate (see Table 1).

Data Analyses

Focal hypotheses were tested using multiple linear regression, deployed within SPSS version 24. Bias-corrected 95% confidence intervals generated through 1,000 bootstrap resamples are reported for all regression coefficients. Evaluation of the unique effects of our focal traits necessitated multiple statistical tests, increasing the risk of false positives. We therefore adopted the recommendation of Benjamin et al. (2018) and describe effects as "significant" only if the corresponding p-value is < .005.

[2] Participants also completed a second Big Five questionnaire, the Big Five Inventory 2 (BFI-2, Soto & John, 2017). Results based on this measure were very similar to those based on the BFAS (see supplementary Table S2).

Results and Discussion

Preliminary Analyses

Means and standard deviations for all BFAS scales are shown in Table 1, whereas intercorrelations among all 15 scales are reported in a supplementary section (Table S1). The mean value for the consequentialist thinking scale, $M = 1.56$, $SD = 0.32$, suggested that that the average participant was not strongly inclined toward either deontological or consequentialist thinking. Younger participants were significantly more inclined toward consequentialist thinking, $r = -.16$, $p < .001$, as were males ($M = 1.62$, $SD = 0.31$) compared to females ($M = 1.51$, $SD = 0.32$), $t(553) = 4.02$, $p < .001$, $d = .35$. Controlling for age and sex in the following analyses did not alter any of our conclusions, and thus we excluded these variables from our models. For all regression models reported below (including analyses in the supplement), variance inflation factor (VIF) values were well within acceptable limits ($1 < VIF < 10$), indicating that multicollinearity was not a problem (Tabachnick & Fidel, 2001)

Personality and Moral Judgment

We first computed zero-order correlations with bias-corrected 95% confidence intervals generated through 1,000 bootstrap resamples (see Table 1). At the Big Five domain level, consequentialist thinking was significantly negatively associated with agreeableness and conscientiousness. However, this pattern of results shifted slightly when all of the Big Five domains from the BFAS were entered as simultaneous predictors of consequentialist thinking: The significant negative association with agreeableness remained, accounting for 8% of unique variance in the consequentialist thinking scale, above and beyond the other Big Five domains. This indicated that more agreeable people have stronger deontological inclinations. In addition, a significant positive association with openness/intellect emerged, accounting for 4% of unique variance in the consequentialist thinking scale. This indicated that individuals scoring higher on openness/intellect have stronger consequentialist inclinations. Although it did not reach our specified significance threshold, there was also a very modest unique association between extraversion and deontological inclinations that reached conventional levels of significance, accounting for < 1% of unique variance in the criterion.

At the aspect-level, significant zero-order associations were observed between the consequentialist thinking scale and enthusiasm, industriousness, politeness, and compassion. However, when all ten aspects were entered as simultaneous predictors only two remained

significant: Intellect emerged as a significant unique predictor of consequentialist inclinations—explaining 2% of unique variance in the consequentialist thinking scale, above and beyond the other aspect scales—whereas politeness remained a significant unique predictor of deontological inclinations, explaining 3% of unique variance. Both effects approximated a medium effect size in the context of individual differences research (Gignac & Szodorai, 2016).

Insert Table 1 about here

Summary

The finding that intellect was a significant, unique predictor of consequentialist inclinations supports our first hypothesis. This finding can be reconciled with the DPM account of consequentialist judgment based on deliberative cognitive processes, but was complicated by an apparent suppression effect. Specifically, intellect was a non-significant predictor at the zero-order level, only emerging after the other aspects of the Big Five were included in the model. Although multicollinearity was well within acceptable levels in our models, intellect is moderately ($r > .40$) correlated with some other trait aspects, such as industriousness, assertiveness, and lower orderliness (see Table S1). These associations may have suppressed some variance in intellect that was unrelated to consequentialist inclinations. Another possibility is that intellect is associated with both consequentialist and deontological inclinations, which are confounded in our bipolar measurement of moral judgment. Any association with deontological inclinations may then have been attenuated after controlling for other, more potent predictors of deontology. Our second study, within which we derive orthogonal indices of consequentialist and deontological inclinations, may help to clarify this association.

Our second hypothesis, based on the emotion-centered account of deontological judgments provided by the DPM, was not supported. Compassion was not a significant unique predictor of deontological inclinations after controlling for other aspects of the Big Five, and nor were any other traits that primarily describe affective tendencies (e.g., neuroticism). Conversely, the politeness aspect of agreeableness was the strongest predictor of deontological inclinations at the zero-order level, and the only significant predictor of such inclinations when all aspects were entered simultaneously. This supports our alternative hypothesis, derived from accounts of deontological moral judgment based on more general adherence to salient

moral rules (e.g., Baron, 2012; Nichols & Mallon, 2006). Thus, individuals who are marked by their respect for etiquette, manners, and social rules are more inclined toward deontological moral judgments.

Study 2

The principal limitation of the consequentialist thinking scale used in Study 1 is that it pits deontology against consequentialism, potentially leading to interpretative ambiguities. For example, it is possible that the negative relation between politeness and scores on this measure reflects weaker consequentialist inclinations rather than stronger deontological inclinations. Similarly, previously reported links between compassion-related traits and moral judgment may reflect weaker consequentialist inclinations rather than stronger deontological ones (see Patil & Silani, 2014). It is also possible that compassion drives *both* consequentialist and deontological inclinations, but by placing these in opposition the two effects are cancelled out.

We addressed this potential confound using a method called process dissociation (Conway & Gawronski, 2013; Jacoby, 1991). This involved administering a series of moral dilemmas—analogous to trolley/footbridge problems—that were either congruent or incongruent in terms their representation of deontological and consequentialist principles. Incongruent dilemmas pitted consequentialist and deontological inclinations against each other. Conversely, in congruent dilemmas both inclinations supported the same judgment. The classic trolley problem is an example of an incongruent dilemma, because consequentialist inclinations support the judgment that it is acceptable to sacrifice one life to save five, whereas deontological inclinations rule that it is unacceptable. A variation of this problem in which diverting the runaway trolley would cause *even more* than five deaths would be an example of a congruent dilemma. This is because *both* deontological and consequentialist principles would support the judgment that it is morally wrong to divert the trolley. Further details of this method are given in the next section (see also Conway & Gawronski, 2013).

Process dissociation has helped clarify results of previous studies using methods that pit consequentialism against deontology. A compelling example concerns a relation between antisocial personality traits and consequentialist inclinations—suggesting, rather implausibly, that psychopathic individuals are motivated by the greater good (e.g., Bartels & Pizarro, 2011; Koenigs, Kruepke, Zeier, & Newman, 2012). But process dissociation reveals that such traits are in fact *negatively* related to *both* consequentialist and deontological inclinations (Conway,

Goldstein-Greenwood, Polacek, & Greene, 2018; Gawronski et al., 2017). Because the negative association these traits have with deontology is so strong ($r \sim -.50$), it manifests as a positive association with consequentialism when the two inclinations are assessed as bipolar opposites. (For a similar demonstration concerning authoritarian ideology, see Bostyn, Roets, & Van Hiel, 2016.) By deriving orthogonal indices of deontological and consequentialist inclinations in our second study we sought to clarify any such interpretative ambiguities in the results of our first study (e.g., the potential suppression effect involving intellect).

Method

Participants

Participants were 254 Australian university students (62 males and 189 females, plus 3 who did not indicate their sex), aged 17-54 (M = 19.62, SD = 3.95; two participants did not indicate their age), who were enrolled in a first year psychology subject and participated for course credit. Concerning other demographic variables included in the survey, 48% percent of participants identified as Asian; 35% as Australian; the remainder as Other. The sample was politically moderate-to-liberal, with only 7% of participants identifying as conservative, 32% as moderate, and the remainder as liberal.

These data were collected as part of a larger project concerning moral psychology, for which the sample size was determined by fixed time constraints for testing (i.e., the student participation pool was only available during the university teaching period). Whereas data in study 1 were collected online, data for study 2 were collected face-to-face in a small testing both. Although this time-consuming procedure yielded a comparatively smaller sample than in study 1, we nevertheless achieved 80% power to detect a significant bivariate correlation as small as r = .23, using a critical alpha of 0.005, an approximately medium effect size in personality psychology (Gignac & Szodorai, 2016). Our sample also provided 80% power to detect a significant regression coefficient with a squared semi-partial correlation of sr^2 = .09 (within a five predictor model) or sr^2 = .07 (within a ten predictor model), using a critical alpha of 0.005.

Measures

Big Five Personality Traits. The domains and aspects of the Big Five were again assessed using the BFAS, described in Study 1. Internal consistencies of all BFAS scales in this sample were adequate (see Table 2).

Moral Dilemmas and Process Dissociation. Participants read the 20 moral dilemmas described by Conway and Gawronski (2013). These comprised ten scenarios, each with two variations (congruent vs. incongruent), in which participants imagined themselves performing a harmful action in order to prevent a particular outcome. As in the classic trolley/footbridge problems, incongruent scenarios pitted deontology against consequentialism. For example, one scenario involved a driver swerving to avoid killing a young mother and child, but thereby killing an elderly woman. In the congruent variations of these scenarios, deontological and consequentialist considerations were in alignment. For instance, the congruent variation of the scenario just described involved swerving to avoid killing a young mother and child, but thereby killing a group of school children. The full text of all 20 dilemmas is available in Appendix A of Conway and Gawronski (2013).

Following Conway and Gawronski (2013), participants were instructed to indicate for each of the 20 scenarios whether the harmful action described (e.g., the driver swerving to avoid killing the mother and child) was *appropriate* or *inappropriate*. Indices of deontological and consequentialist inclinations were then computed based on each individual's pattern of responses across the congruent and incongruent scenarios. Specifically, consequentialist inclinations (*C*) can be modelled as the difference between a participant's probability of judging a harmful action within a congruent dilemma to be appropriate, and their probability of judging that action within an incongruent dilemma to be inappropriate. Thus:

$$C = p(\text{appropriate}|\text{congruent}) - p(\text{inappropriate}|\text{incongruent})$$

Conversely, deontological inclinations (*D*) can be modelled as the probability that one will judge the harmful action within incongruent dilemmas to be unacceptable when consequentialism isn't driving the response. Thus:

$$D = p(\text{inappropriate}|\text{incongruent}) \,/\, (1 - C)$$

Using the above formulae, a person who endorsed the harmful action in all of the incongruent scenarios but none of the congruent scenarios, thereby responding in a consequentialist manner, would be described by the values of $C = 1$ and $D = 0$. Conversely, a strong deontologist, who judged the harmful action in all 20 of the scenarios to be unacceptable, would be described by the values of $C = 0$ and $D = 1$. On the other hand, if one judged the harmful action as acceptable in all 20 of the scenarios—demonstrating a willingness to cause harm *regardless*

of the consequences—they would be described by the values of $C = 0$ and $D = 0$. (For detailed discussion of these formulae, see Appendix B of Conway & Gawronski, 2013.)

For post hoc exploratory purposes, we also derived a bipolar index of deontological *versus* consequentialist inclinations. This would allow us to more closely compare results of study 2 with those of our first study[3]. The bipolar index was computed simply as the probability of judging an incongruent dilemma as inappropriate:

DvsC = *p*(inappropriate|incongruent)

Thus, a strong deontologist (or weak consequentialist), who judged the harmful action in all 10 incongruent the scenarios to be unacceptable, would have a value of *DvsC* = 1, whereas a strong consequentialist (or weak deontologist), who judged the harmful action in all 10 incongruent the scenarios to be acceptable, would have a value of *DvsC* = 0.

Data Analyses

As in study 1, focal hypotheses were tested using multiple linear regression, including bias-corrected confidence intervals for regression coefficients, and a stringent significance threshold of $p < .005$ was adopted to guard against false positives, in line with recommendations by Benjamin et al. (2018).

Results and Discussion

Preliminary Analyses

Means and standard deviations for all BFAS scales are shown in Table 2, whereas intercorrelations among these scales can be found in supplementary Table S1. There were no significant associations between age and either deontological inclinations, $r = .07$, $p = .26$, or consequentialist inclinations, $r = -.08$, $p = .20$. Similarly, no sex differences emerged on these variables, $ts < 1$, $ps > .60$. Reflecting their operational independence (see formulae, above), deontological inclinations (*D*) were not significantly associated with consequentialist inclinations (*C*), $r = .10$, $p = .11$. All VIF values were well within acceptable limits ($1 < VIF < 10$), indicating that multicollinearity was not a problem in any of the regression analyses reported below (Tabachnick & Fidel, 2001).

Personality and Moral Judgment

At the zero-order level, agreeableness was significantly positively correlated with deontological inclinations, whereas openness/intellect was significantly positively correlated

[3] We thank an anonymous reviewer for this suggestion

with both deontological and consequentialist inclinations (see Table 2). However, when the Big Five domains were entered as simultaneous predictors of each of these parameters (in two separate models), the pattern of results matched that of study 1: Agreeableness uniquely predicted deontological inclinations, explaining 7% of unique variance in the criterion, and openness/intellect uniquely predicted consequentialism, explaining 5% of unique variance in the criterion. At the aspect-level, politeness, compassion, and openness were the only significant zero-order correlates of deontological inclinations, and intellect was the only significant correlate of consequentialist inclinations. When all ten aspects were entered simultaneously into two regression models, only intellect significantly predicted consequentialist inclinations, explaining 7% of unique variance (i.e., above and beyond the nine other trait aspects) and only politeness significantly predicted deontological inclinations, explaining 4% of unique variance. The pattern of findings again matched results from study 1.

Our post hoc exploratory analysis using a bipolar index of moral judgment (capturing deontological *versus* consequentialist inclinations) yielded somewhat similar trait correlates (see Table 3). Specifically, Big Five agreeableness emerged as a significant zero-order correlate of deontological inclinations, and this effect fell on the margin of our significance threshold (p = .005) when all five domains were entered into a simultaneous regression, accounting for 3% unique variance in the criterion. At the aspect level, only politeness emerged as a significant zero-order predictor of deontological inclinations. Although this effect of politeness fell short of our specified significance threshold when all ten aspects were entered into a simultaneous regression, it was the only Big Five aspect to reach conventional significance levels (p = .03), accounting for 2% of unique variance. Contrary to expectations, neither the openness/intellect domain nor intellect aspect significantly correlated with our bipolar index. Interestingly, however, intellect went from having the weakest zero-order correlation (r = .02) to the strongest regression coefficient in the model including all ten aspects (β = .13, p = .11). This is again suggestive of a suppression effect, as observed for our bipolar index of moral judgment in study 1. Results of this post hoc analysis should be regarded with some caution, particularly as this bipolar index of moral judgment was based on half the number of sacrificial dilemmas as our orthogonal unipolar indices.

Insert Table 2 about here

Summary

Results of study 2 again yielded evidence linking politeness with deontological inclinations and intellect with consequentialist inclinations. This divergent pattern of associations was even sharper than revealed in study 1, owing to our calculation of orthogonal indices of these inclinations using process dissociation. This allowed us to de-confound stronger consequentialist inclinations from weaker deontological inclinations, and vice versa. Strengthening the conclusions drawn from study 1, results based on these indices formed a sharp double-dissociation: politeness uniquely predicted deontological inclinations and was unrelated to consequentialist inclinations, whereas intellect uniquely predicted consequentialist inclinations and was unrelated to deontological inclinations. Both effects exceeded typical effect sizes in individual differences research (Gignac & Szodorai, 2016).

Findings of study 2 may also help to clarify the apparent suppression effect for intellect observed in study 1: In both of our studies, the association between intellect and bipolar indices of consequentialist inclinations was non-significant and approaching zero, but became much stronger (and significant in study 1) after controlling for other trait aspects. Conversely, in study 2, intellect was moderately and significantly associated with our unipolar index of consequentialist inclinations in both bivariate and multivariate analyses. However, it was also positively correlated, albeit more modestly, with our unipolar index of deontological inclinations. If intellect has a positive relation with both kinds of inclinations, then these associations will be particularly vulnerable to the confounding one risks using bipolar indices that pit consequentialist inclinations against deontological ones, as described earlier. Additionally, the fact that the association between intellect and such indices is somewhat clearer when entered alongside other aspect-level scales suggests that its link with deontological inclinations is largely owing to its overlap with these trait aspects (see Supplementary Table S1).

As in study 1, we found no significant unique association between compassion—or any other traits that primarily describe affective tendencies, such as the domains and aspects of neuroticism—in moral judgment. There was again a significant zero-order correlation between compassion and deontological inclinations, approaching the size of the corresponding correlation for politeness, but this again disappeared when all trait aspects were entered simultaneously. The lack of a significant unique effect of compassion on deontological inclinations in either of our studies casts considerable doubt on previously reports of an

association between compassion-related traits and deontological inclinations. Specifically, it seems likely that this association is primarily driven by the correlated trait of politeness, reflecting respectfulness and etiquette, which previous studies have not controlled[4]. This observation seems broadly in line with theories attributing deontological judgments to norm adherence, but less consistent with perspectives attributing these to emotional reactivity.

General Discussion

We have provided the first examination of how the domains and aspects of the Big Five traits are linked with moral judgment. Our two studies add to a growing literature at the interface of personality and morality (for a review see Smillie et al., 2019). It also brings further evidence to bear on influential theories in moral psychology, such as the Dual Process Model (DPM) of moral judgment proposed by Greene and colleagues. Although some of our findings appear consistent with that model, others align better with perspectives that emphasize adherence to salient moral rules. We now expand on our description of these findings, noting several implications but also some important caveats.

In both of our studies, the intellect aspect of openness/intellect was the strongest predictor of consequentialist inclinations after holding constant other personality traits. Thus, intellectually curious people—those who are motivated to explore and reflect upon abstract ideas—are more inclined to judge the morality of behaviors according to the consequences they produce. This effect held both for good-versus-bad judgments concerning a range of specific actions and their outcomes (study 1) and for a unipolar index of welfare maximization preference derived from sacrificial dilemmas (study 2). This finding appears in line with the DPM's explanation of consequentialist moral judgments in terms of "cognitive" processes involving a deliberative evaluation of the action in question. It also aligns with evidence that consequentialist inclinations are associated with need for cognition (Conway & Gawronski, 2013, cf., Kahane et al., 2018), and with scores on the cognitive reflection test (Paxton et al., 2011, cf., Royzman et al., 2015).

Interestingly, however, intellect was more weakly (study 1) or non-significantly (study 2), associated with bipolar indices of consequentialist *versus* deontological inclinations. This is

[4] To examine this interpretation more closely, we conducted supplementary analyses in which only compassion and politeness were entered together into regression models predicting (1) the consequentialist thinking scale (Study 1), and (2) the deontological inclinations parameter (Study 2). In both of these models, politeness was a significant predictor of deontological inclinations whereas the effect for compassion was weaker and fell just short of our threshold for significance (see supplementary Table S3).

possibly owing to our finding, in study 2, that intellect was associated with both consequentialist and deontological inclinations when measured independently. This underscores previous cautions that bipolar indices of moral judgment can create interpretive ambiguities (Conway & Gawronski, 2013). It is important to also note that a recent study found no association between a unipolar index of consequentialist inclinations and the HEXACO domain of openness to experience, but instead found an association with emotionality (Kroneisen & Heck, 2020). Because HEXACO emotionality blends elements of Big Five neuroticism and agreeableness (Ashton & Lee, 2007), and HEXACO openness to experience is aligned with Big Five openness rather than intellect (Ludeke et al., 2019), it is difficult to closely compare these findings with our own results. In addition, whereas we focused on the *unique* association that each Big Five aspect had with moral judgment—revealing potential evidence for suppression effects, in the case of trait intellect—Kroneisen and Heck (2020) used a separate model for each HEXACO domain. These remaining ambiguities might be resolved in future research using both the HEXACO and Big Five, within both univariate and multivariate models, to clarify the unique and overlapping links between personality and moral judgment.

Our other main finding, which emerged very consistently across both studies and our different indices of moral judgment, was a unique association between politeness and stronger deontological inclinations. This means that individuals who are more courteous, respectful, and adherent to salient social norms, tend to judge the morality of an action not by its consequences, but rather by its alignment with particular moral rules, duties, or rights. This echoes a recent finding that HEXACO honesty-humility, which appears particularly closely aligned with Big Five politeness (DeYoung et al., 2007; Zhao et al., 2017a), also predicts moral judgments that are consistent with deontology (Kroneisen & Heck, 2020). Both findings are arguably in line with Nichols and Mallon's (2006) suggestion that social norm and rule-based processes are under-appreciated drivers of deontological moral judgments. In contrast, our findings are difficult to reconcile with the view that these inclinations stem from feelings of pity or sympathy, as stipulated in the DPM (Greene, 2007). Although some previous studies have found associations between deontological inclinations and empathy-related traits, this association has sometimes not replicated (e.g., Baron et al., 2018). That was also the case in both of the present studies, neither of which supported a significant unique association between trait compassion and moral judgments of any kind in either of our studies. We also

found no unique associations between deontological inclinations and other traits to which emotional susceptibilities are central, namely, neuroticism and its aspects[5].

Although our two studies do not support a role for emotion in deontological moral judgments, it is important to emphasize that they do not refute this possibility either. The present studies were designed to examine relations between basic personality traits and moral judgment, not to directly test theories of moral judgment such as the DPM. Our lack of support for a unique relation between compassion and deontological inclinations is certainly difficult to square with the hypothesis that these are driven by feelings of pity and empathy, as specified by the DPM (Greene, 2007). It is also worth reiterating that, on the whole, prior evidence in favor of the DPM's emotion-centered account of deontological judgment is not especially strong. For instance, a role for emotion was initially inferred indirectly, on the basis of faster response times for deontological judgments, and that data was later called into question (McGuire et al., 2009). Moreover, subsequent studies that directly manipulated emotions have yielded inconsistent support for the DPM, such as the finding that different positive emotions have diverging effects on moral judgment (Strohminger, Lewis, & Meyer, 2011). On the other hand, there is clearer evidence to support a role for other kinds of emotions, such as disgust, in deontological judgment (e.g., Baron et al., 2018; Robinson, Xu, & Plaks, 2019). Interestingly, disgust sensitivity is related to both agreeableness (Druschel & Sherman, 1999) and HEXACO Honesty-Humility (Tybur & de Vries, 2013), the latter of which maps closely to BFAS politeness (DeYoung et al., 2007). Indeed, although politeness primarily describes adherence to salient social norms, few personality traits are completely affect-free (see Wilt & Revelle, 2012). Thus, the unique effects of trait politeness observed in the present research are potentially in alignment with evidence that disgust plays a role in deontological moral judgment, as well as the view that such judgments reflect adherence to social norms (i.e., these mechanisms may not be mutually incompatible).

Strengths of the current research include the use of two large samples, and the computation of two established indices of moral judgment, each of which addresses the limitation of the other. Specifically, in study 1 we assessed moral judgments pertaining to a wide range of real-world morally-questionable behaviors, but in a way that confounded weak

[5] We also note that our findings offer no clear support for claims that consequentialist responses in sacrificial dilemmas stem from reduced harm aversion (e.g., Cushman, Gray, Gaffey, & Mendes, 2012; Kahane et al., 2015). On this account, we would expect moral judgments aligned with consequentialism to be negatively predicted by compassion, or perhaps neuroticism, which was not the case in either of our studies.

deontological inclinations with strong consequentialist inclinations. Thus, in study 2 we derived orthogonal indices of deontological and consequentialist inclinations, albeit within a series of somewhat artificial sacrificial dilemmas. A further strength of both studies is our comprehensive assessment of personality traits at two levels of the Big Five hierarchy, expanding on a recent domain-level study focused on the HEXACO (Kroneisen & Hick, 2020). This enabled us to examine unique effects of theoretically relevant traits while controlling for closely related but importantly distinct constructs (e.g., politeness distinct from compassion). As a further contribution, our data are freely and publicly available, allowing future researchers to further explore the links between personality and moral judgment (e.g., by examining interactions between trait aspects, or in relation to judgments about specific morally questionable behaviors).

Nevertheless, we also note the following important caveats to the conclusions we have drawn here: First, the moral judgments examined in both of our studies largely concerned instances of possible harm. Most of the scenarios used in study 1 comprised acts involving definite or potential harm, both physical (e.g., murder, torture) and psychological (e.g., lying, gossip), and all of the scenarios in study 2 involved physical harm. Of course, our focus was guided by the account of deontology provided by the DPM, which centers on aversive responses to causing harm. However, our findings—and, for that matter, the DPM—may not generalize to judgments about actions that do not involve actual or potential harm (see Kahane et al., 2018, cf., Schein & Gray, 2018).

Second, in both of our studies, deontological inclinations were confounded with a preference for inaction (see Crone & Laham, 2016; Gawronski et al., 2017). It is therefore possible that polite individuals simply have a general preference for inaction, rather than an inclination toward deontology. This would imply a somewhat unusual construal of politeness (i.e., suggesting that manners and etiquette essentially comprise inaction). A more plausible correlate of preference for inaction is (low) conscientiousness, as indeed was recently hypothesized in a recent study that did distinguish deontological inclinations from preference for inaction (Kroneisen & Heck, 2020). Surprisingly, however, that study revealed no association between any personality traits and preference for inaction, except for a post hoc analyses indicating a possible association with emotionality. Crucially, for our purposes, these

authors found no relation between honesty-humility—the HEXACO domain that relates most closely to Big Five politeness—and a preference for inaction.

Third, although our findings yielded theoretically interpretable associations between personality and moral judgment, they cannot speak directly to the mechanisms underlying these associations. It may therefore be valuable for future extensions of this work to evaluate potential mediators of the relations that politeness and intellect have with deontological and consequentialist inclinations, respectively. For instance, we might hypothesize that measures of social norm adherence (e.g., Montoya & Pittinksy, 2012) mediate the relation between politeness and deontological inclinations, whereas measures of reflective processing (e.g., West, Toplal, & Stanovich, 2008) mediate the relation between intellect and consequentialist inclinations. Such studies might also directly assess affective responses to the dilemmas employed in study 2, focusing on emotions such as sympathy (Greene, 2007) and disgust (Robinson et al., 2019).

Finally, whereas researchers in this area have often used the terms "consequentialism" and "utilitarianism" interchangeably, we caution that our inferences are warranted for consequentialism, but perhaps not for utilitarianism. We have shown that intellect predicts moral judgments based upon a consideration of consequences (Study 1) and the acceptability of instrumental harm in increasing aggregate welfare (Study 2). Neither of these capture additional aspects of utilitarianism concerned with impartial maximization of the greater good (see Kahane et al., 2018). Future research might thus extend our present focus to explore the role of personality in predicting multiple dimensions of utilitarianism (e.g., impartiality versus instrumental harm; Kahane et al., 2018) and, indeed, different forms of consequentialism (e.g., those grounded in hedonistic versus non-hedonistic conceptions of the good) and deontology (e.g., agent-centered versus patient-centered). Such explorations would help to further enrich our understanding of the role that personality plays in moral judgment.

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Table 1

Descriptive statistics and associations between personality traits and consequentialist (vs deontological) thinking (Study 1).

				Consequentialist Thinking Scale				
	M	*SD*	α	*r*	*CI*	β	*CI*	sr^2
Domain-Level Model								
Extraversion	3.24	0.69	.91	-.10^	-.18, -.03	-.09^	-.18, -.01	.01
Neuroticism	2.62	0.81	.94	.12^	.03, .21	.02	-.06, .11	.01
Conscientiousness	3.56	0.61	.89	**-.14***	-.23, -.06	-.07	-.15, .03	.01
Agreeableness	3.88	0.58	.90	**-.27***	-.36, -.18	**-.32***	-.42, -.21	.08
Openness/Intellect	3.77	0.58	.88	.05	-.04, .14	**.24***	.15, .35	.04
Aspect-Level Model								
Assertiveness	3.20	0.78	.88	.01	-.08, .08	-.01	-.12, .11	.01
Enthusiasm	3.28	0.78	.88	**-.18***	-.26, -.11	-.11	-.22, .01	.01
Volatility	2.49	0.86	.92	.10^	.02, .19	-.10	-.22, .02	.01
Withdrawal	2.75	0.87	.90	.12^	.03, .21	.13	-.01, .28	.01
Industriousness	3.56	0.73	.87	**-.14***	-.22, .06	-.04	-.16, .09	.01
Orderliness	3.56	0.68	.83	-.10^	-.18, -.02	-.04	-.13, .05	.01
Politeness	3.90	0.62	.81	**-.27***	-.36, -.18	**-.24***	-.36, -.12	.03
Compassion	3.86	0.73	.91	**-.21***	-.29, .12	-.10	-.23, .02	.01
Openness	3.73	0.67	.83	.03	-.07, .14	.07	-.04, .18	.01
Intellect	3.79	0.66	.84	.07	-.02, .16	**.17***	.06, .29	.02

* $p < .005$; ^ $p < .05$; *CI* = bias-corrected 95% confidence interval generated through 1,000 bootstrap samples; All coefficient values < ± .01 are rounded to ± .01.

Table 2

Descriptive statistics and associations between personality traits and inclinations toward orthogonal indices of deontology and consequentialism (Study 2).

				Deontological Inclinations					*Consequentialist Inclinations*				
	M	*SD*	α	*r*	*CI*	β	*CI*	sr^2	*r*	*CI*	β	*CI*	sr^2
Domain-Level Model													
Extraversion	3.19	0.58	.88	.10	-.02, .22	.03	-.11, .17	.01	-.01	-.14, .14	-.04	-.20, .12	.01
Neuroticism	3.07	0.68	.90	-.06	-.19, .07	-.01	-.13, .12	.01	.05	-.07, .18	.06	-.20, .12	.01
Conscientiousness	3.05	0.50	.84	.07	-.06, .20	.04	-.09, .17	.01	-.08	-.19, .04	-.08	-.20, .04	.01
Agreeableness	3.79	0.50	.84	**.30***	.18, .41	**.27***	.14, .39	.07	.09	-.03, .21	.05	-.07, .17	.01
Openness/Intellect	3.55	0.54	.84	**.22***	.09, .35	.16^	.03, .29	.02	**.23***	.12, .34	**.26***	.12, .40	.05
Aspect-Level Model													
Assertiveness	3.04	0.72	.82	.04	-.07, .29	.06	-.14, .23	.01	-.01	-.13, .11	-.12	-.31, .07	.01
Enthusiasm	3.34	0.66	.87	.13	-.01, .25	.07	-.10, .24	.01	.01	-.14, .15	.06	-.10, .24	.01
Volatility	2.90	0.81	.88	-.09	-.21, .04	-.01	-.16, .15	.01	.05	-.08, .16	.03	-.15, .20	.01
Withdrawal	3.25	0.72	.83	-.02	-.15, .11	.04	-.15, .22	.01	.05	-.07, .16	.08	-.11, .27	.01
Industriousness	2.67	0.61	.84	.08	-.05, .21	.01	-.17, .18	.01	-.06	-.17, .06	-.13	-.31, .04	.01
Orderliness	3.43	0.60	.74	.04	-.10, .17	.02	-.13, .17	.01	-.07	-.18, .05	-.02	-.16, .17	.01
Politeness	3.73	0.55	.70	**.26***	.15, .37	**.26***	.10, .42	.04	.04	-.09, .17	.03	-.13, .21	.01
Compassion	3.85	0.64	.86	**.24***	.11, .37	.04	-.12, .20	.01	.10	-.02, .23	.01	-.15, .17	.01

Table 3.

Descriptive statistics and associations between personality traits and a bipolar index of consequentialist-versus-deontological inclinations (i.e., the probability of judging an incongruent dilemma as inappropriate), in Study 2.

				p(inappropriate|incongruent)									
				r	*CI*	*β*	*CI*	sr^2					
Domain-Level Model													
Extraversion				-.09	-.20, .03	-.06	-.21, .09	.01					
Neuroticism				.08	-.04, .20	.04	-.09, .16	.01					
Conscientiousness				-.10	-.21, .01	-.08	-.19, .04	.01					
Agreeableness				**-.18***	-.29, -.07	-.18^	-.30, -.06	.03					
Openness/Intellect				-.03	-.14, .09	.04	-.08, .18	.01					
Aspect-Level Model													
Assertiveness				-.04	-.16, .09	-.13	-.32, .06	.01					
Enthusiasm				-.11	-.22, .02	-.03	-.20, .15	.01					
Volatility				.10	-.01, .21	.04	-.13, .20	.01					
Openness	3.69	0.62	.78	**.19***	.07, .34	.12	-.02, .25	.01	.16^	.03, .27	.03	-.11, .17	.01
Intellect	3.40	0.72	.84	.16^	.04, .29	.12	-.05, .27	.01	**.22***	.10, .33	**.35***	.19, .52	.07

* $p < .005$; ^ $p < .05$; *CI* = bias-corrected 95% confidence interval generated through 1,000 bootstrap samples; All coefficient values < ± .01 are rounded to ± .01.

Withdrawal	.04	-.08, .15	-.01	-.20, .22	.01
Industriousness	-.10	-.21, .01	-.09	-.24, .06	.01
Orderliness	-.07	-.19, .05	-.03	-.20, .11	.01
Politeness	**-.18***	-.29, -.05	-.19^	-.35, -.01	.02
Compassion	-.13^	-.26, -.01	-.02	-.17, .13	.01
Openness	-.06	-.17, .04	-.09	-.22, .05	.01
Intellect	.02	-.11,.14	.13	-.06, .34	.01

* $p < .005$; ^ $p < .05$; *CI* = bias-corrected 95% confidence interval generated through 1,000 bootstrap samples; All coefficient values < ± .01 are rounded to ± .01.