

Dark versus light personality types and moral choice

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Abstract

Job performance and worker evaluation often takes into account broad factors beyond task performance, such as organization citizenship and counterproductive workplace behaviors. Personality tests used in personnel selection are aimed at helping identify those who will benefit a company along multiple dimensions. Dark personality traits have been linked to behaviors commonly understood as unethical (e.g., fraud, bribe-taking), which would contribute to counterproductive or deviant workplace behaviors. Additionally, dark personality types are more self-interested and unlikely to be good organizational citizens. This paper reports results from a preregistered study of over 2400 participants who completed validated short-form personality instruments assessing the dark tetrad and a light “triad” of personality traits. Furthermore, participants completed 3 simple building-block tasks that contribute to an understanding of one’s business-relevant ethics: a task assessing prosociality (i.e., an antecedent to organizational citizenship behavior), a task that measures dishonesty (i.e., a counter-product behavior of interest to managers), and a hypothetical moral dilemma task often used in business ethics courses to stimulate thought over difficult moral trade-offs. The results overall support the hypotheses that dark, compared to light, personality traits predict lower levels of prosociality, higher likelihood of dishonesty, and an increased willingness to make immoral choices overall. Potential mechanisms and practical implications are examined.

Key Words: Ethics, dark personality, moral choice, experiments.

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1. INTRO

A cluster of dark personality traits named the “dark tetrad” (psychopathy, narcissism, Machiavellianism, sadism) has attracted the interest of researchers studying personality and decision making. More recently, a novel set of “light” personality traits has been studied and, in fact, many individuals display dimensions of both dark and light personality traits. Dark personality traits have been linked to behaviors commonly understood as unethical, such as fraud, bribe-taking, and marital infidelity, while light traits are associated with more prosocial tendencies. The connection between personality and behavior is of significant interest to organizations that desire more from their employees than simple task performance (Rotundo and Sackett, 2002; Chiaburu et al., 2011). These more broad measures of job performance, such as prosocial organizational citizenship and counterproductive workplace behaviors, are important to managers, can impact personnel decisions, and influence overall corporate culture in ways that affect firm performance.

This paper reports results from a preregistered study of over 2400 participants who completed validated short-form personality instruments to assess dark and light personality trait measures—the dark tetrad and a light “triad” of 3 personality dimensions were measured. Additionally, participants completed 3 tasks of interest that contribute to an understanding of one’s organizational (and overall) ethics. Participants were administered the incentivized Social Value Orientation (SVO: Murphy et al., 2011) task to identify prosocial tendencies, which are necessary for organizational citizenship behaviors. They were also administered the Coin Flip task (Houser et al., 2012) that presents a monetary temptation for dishonesty and offers a glimpse into the likelihood of counterproductive or deviant workplace behaviors. Finally, participants made hypothetical choices across several scenarios of the classic Trolley Dilemma (Foot, 1967), where we also examined how personality type affected self-reported mood response to this dilemma. The main theme of our findings is that dark personality traits predict antisocial and immoral choices in the tasks examined. And, while certain Big-5 personality factors may also predict some of these same behaviors in our data (e.g., prosociality), the dark and/or light traits predict significant *additional* outcome variance. In some cases, they are the only personality traits that predict choices in our data (e.g., cheating behavior). Additional exploratory analysis also highlights that dark personality negatively impacts a type of task performance in our of our

tasks, which would suggest dark traits can harm all three broad dimensions of job performance generally considered (Rotundo and Sackett, 2002).

While an examination of the personality-morality link may be of interest more generally, its applications for managerial practice are worth noting. The use of personality tests in occupational settings, for example, can influence personnel selection, predict conflict management style, or predict organizational citizenship behaviors that may be more discretionary and spontaneous, such as prosociality (Espinoza et al., 2023; Pletzer et al., 2021). Personality testing is a growing industry estimated to be worth \$400 million in the U.S. alone, and the use of workplace personality testing for applicant screening is common among top U.S. and British companies (Rothstein and Goffin, 2006). While an early review in Guion and Gottier (1965) downplayed the validity of using personality measures in personnel selection, more recent meta-analytic studies spurred new interest in the practical use of personality measure to predict job-related performance (Barrick and Mount, 1991; Tett et al., 1991), and practitioners increasingly use personality tests to predict future job performance (Pletzer et al., 2021).¹ Most of the research connecting personality to job performance has focused on the Big 5 (five factor) model of personality (Barrick and Mount, 2003), although others have expanded this to include additional factors (e.g., Hough, 1992, considers nine factors). An additional contribution of the present paper is to further our understanding of how the distinct “dark and light” taxonomy of personality can predict behavior in the important and practical domain of moral choices.

2. BACKGROUND

Dark personality traits have been linked to various dimensions of unethical behavior, including fraud, deception, theft, bribe-taking, cyber-bullying, cheating, shoplifting, and marital infidelity (Nathanson et al., 2006a, 2006b; Zhao et al., 2016; Azizli et al., 2016; Sevi et al., 2020; Brown et al., 2019). The dark traits have been further linked to antisocial tendencies or selfish behaviors in the domains of sex, power and money (Lee et al., 2013). While unethical behaviors have also been connected with certain dimensions of other personality structure models, such as the Big 5 (Tupes and Christal, 1992; Goldberg, 1993) and the HEXACO (Lee and Ashton, 2004;

¹ While commonly used (including for middle and upper management candidate vetting), personality tests are not without controversy in workplace practice, as noted by several high profile legal cases (see <https://leaders.com/articles/business/personality-tests/>, accessed Nov 29, 2023).

Kroneisen and Heck, 2020), the dark tetrad of personality traits remains of interest and is easily integrated with a contrasting “light triad” of personality traits (Kantianism, Humanism, and Faith in humanity) that capture more positive dimensions of personality (Kaufman et al., 2019).²

The dark side of personality links to unethical or morally questionable behavior due its connection to certain primal behavioral tendencies. Dark traits have been found to correlate with spontaneous decision making (Čopková and Christenková, 2021), impulsivity, and sensation-seeking (Crysel et al., 2013). Those with dark personality traits may also devalue collective interests and have a diminished concern for moral foundations (Jonason et al., 2015). As such, it is perhaps not surprising that researchers have found dark personality elements to be powerful antecedents to fraud behaviors (Harrison et al., 2018; Risenbilt and Commandeur, 2013), linked to overconfidence and risky corporate workplace behavior (O’Reilly and Hall, 2021; Olsen and Stelberg, 2016), positive predictors of antisocial online behavior (March and Marrington, 2021), and they promote an increased likelihood of involvement in an ethical misconduct scandal (Van Scotter and Roglio, 2020).

Despite the strong intercorrelation between dark personality measures, in general, the link between narcissism and immoral choice is less clear (see meta-analysis in Muris et al., 2017). For example, Zuo et al. (2016) found that narcissism may be *positively* associated with personal morality, at least among those with low self-esteem. Others have reported a link between Machiavellianism and psychopathy, but not narcissism, and low moral development and/or moral disengagement (Campbell et al., 2009; Egan et al., 2015). Some have connected all 4 dark traits to cyberbullying (Brown et al., 2019), while others found that only psychopathy, sadism, and Machiavellianism predicted this aversive behavior (Buckels et al., 2014).

Narcissism is not generally viewed as poorly in society as psychopathy and Machiavellianism (Rauthman and Kolar, 2012), which somewhat distinguishes it from other dark traits. To be clear, research has connected narcissism and unethical behavior (e.g., Van Scotter and Roglio, 2020; Risenbilt and Commandeur, 2013), but the link appears more conditional (Zuo et al., 2016), which has led to the perception that narcissism is a bit “less dark”. Some have

² While not directly addressing dark personality and moral choice, others have examined components of personality and decisions of some relevance here. For example, Gill and Rosokha (2020) show that trust-related personality characteristics (interacting via experience) predict increased cooperation in indefinitely repeated Prisoner Dilemma games, and Atanasov et al., (2023) find a self-centered personality cluster predicts willingness to commit strategic loan default (what we refer to in the present paper as an “immoral act of commission”).

highlighted potentially beneficial qualities associated with dark traits, in general, such as increased creativity (Kapoor and Kaufman, 2022), an increased willingness to make utilitarian decisions in moral dilemmas (Karandikar et al., 2019), or a desire to be moral to preserve an inflated self-concept. When dark traits are linked with creativity, it may be malevolent creativity that is encouraged, however.³ Also, the connection between dark personality and utilitarianism is likely more tenuous than reflected in the literature.⁴

There is more limited research on the light triad personality measures and moral choice. Light traits have been shown to negatively correlate with selfishness and aggression, and positively correlate with (socially beneficial) Dictator game donations (Kaufman et al., 2019). Others have found the light triad measure predicted decreased attitudes towards romantic relationship infidelity attitudes (Sevi et al., 2020) or increased likelihood of prosocial online behaviors (March and Marrington, 2021).

It is also worth noting that difficulties in mood regulation are often connected to dark traits. Psychopathy, specifically, has been linked to poorer emotion regulation strategies (Walker et al., 2022), and emotion regulation difficulties relate to pathological personality traits, in general (Pollock, 2016). Others have found the psychopathy and Machiavellianism, but not narcissism, predict moral disengagement when examining the dark triad (Egan et al., 2015). Though the research appears more limited regarding sadism and emotion dysregulation, it seems there may not be a connection here (Zeigler-Hill and Vonk, 2015). Given the importance of emotional engagement and mood in understanding moral judgments and choice (Greene et al., 2001), this present study also examined mood response to moral dilemma scenarios.

Our interest in studying behavior with simple (incentivized) decision tasks reflects a desire to understand the building block behavioral tendencies that speak to the importance of broad job performance dimensions. Understanding the determinants of (un)ethical behavior is also important for organizations and managers (Treviño et al., 2014) given that unethical

³ It is also the case that there may be more nuanced views of some organization citizenship behaviors (OCB), such as selfish motives for OCB (Bolino et al., 2013), or even for dishonesty, such as with altruistic lying (e.g., Sutter, 2009). Our focus reflects the overarching theme that, in general prosociality and honesty in the workplace tend to be beneficial for the organization (e.g., Podsakoff and MacKenzie, 2014).

⁴ A classic moral dilemma, such as the Trolley, dilemma asks if one is willing to flip the switch to save five individuals, but one will be killed as a direct result of the act of slipping the switch. Thus, the choice confounds Utilitarianism with those who simply prefer to be directly responsible for a death(s) rather than passively stand while others may die. Our particular design of Trolley dilemmas will help separate a true Utilitarian from someone who may flip a switch for more morally dubious reasons.

behavior can spread across peers or be considered more acceptable in certain work settings (Ruiz-Palomino et al., 2019; Dimmock et al., 2018; Kocher et al., 2018). And simple incentivized tasks are often helpful and externally valid in predicting important behaviors in field settings (e.g., lab cheating predicts fraud and rule violations in the field: Dai et al., 2018; Cohn and Maréchal, 2018; Cingl and Korb, 2020). While one environment we study is a purely hypothetical moral dilemma, the Trolley problem, this moral thought experiment is common in business ethics courses to stimulate thought about difficult managerial decisions regarding moral dilemmas (Litschka et al., 2011). Some have argued that sacrificial moral dilemmas such as the Trolley problem are of little value or have little external validity (Kahane, 2015; Bauman et al., 2014). However, modifications of classic moral dilemma scenarios may help distinguish moral choices more clearly (e.g., Dickinson and Masclet, 2019), and these hypothetical choices help inform behavior in other consequential ethical environments.

3. METHODS

The study was preregistered prior to data collection on the Open Science Framework (hypotheses, design, variables, analysis).⁵ The preregistration included a larger set of hypotheses than what are covered in this paper, as some of these additional hypotheses were not directly related to the questions of interest here. These additional hypotheses and their associated data analysis and results can be found in the online Supplemental File. Our focus here is on the question of dark and light personality and moral choice as measured by decisions in two incentivized tasks and a classic (hypothetical) moral dilemma. Here, the key elements to the study methodology are described.

The study was administered on the Prolific platform (Palan and Schitter, 2018; Peer et al., 2017) with a target sample size of 2000-2500 observations. Individuals were recruited from the Prolific pools of US and UK residents to participate in a study asking about personality traits, mood, personal or political preferences. It was also noted that participants would be administered 3 short decision tasks, 2 of which were incentivized to generate an additional bonus payment that would depend on participant decisions.

After measurement of some demographic characteristics and baseline mood assessments, the following personality instruments were administered: short-form versions of the dark triad

⁵ The preregistration can be found at <https://doi.org/10.17605/OSF.IO/A8QVD>

personality measures (subclinical psychopathy, narcissism, Machiavellianism: Jones and Paulhus, 2014), subclinical sadism (Plouffe et al., 2017), and the light triad personality measures (Kantianism, faith in humanity, humanism: Kaufman et al., 2019). The survey also administered the short-form version of the Big-5 personality inventory (the TIPI: Gosling et al., 2003), a 6-item cognitive reflection task to assess thinking style (Primi et al., 2016), and a visual measure of time discounting (Hershfield et al., 2012). Along with these, the survey administered the key decision tasks described next in more detail (SVO, Coin Flip task, and Trolley dilemmas). These tasks, along with the personality instruments, were randomized in order within the study. There was also a reassessment of mood following the Trolley dilemma choices that could be compared to the initial baseline mood. In each instance mood was measured along a 7-point scale for each of the following positive and negative mood dimensions: happy; enthusiastic; interested; determined; proud; irritated; distressed; ashamed; angry; sad.

3.1 Decision tasks

3.1.1 The Coin Flip task

The coin flip task administered was a 10-flip version of the original task seen in the literature (Houser et al., 2012). Participants were asked to locate a coin and something to write with before progressing to the page that specified exactly how outcomes were linked to payoffs. The main task page then asked participants to flip the coin 10 times and report the number of HEADS flipped using a slider bar. The instructions further described that the payoff on the task, which contributes to their Prolific bonus payment, would be \$0.15 for each HEADS reported. While seemingly small, the study in total took less than 15 minutes and the potential for an additional \$1.50 payoff from the Coin Flip task implied a chance to more than double their compensation for the short study. Participants were also asked to input the specific outcome of each coin flip, in order, on the page following their HEADS reports. This task therefore presented the participants with a monetary temptation to over-report the number of HEADS flipped. As will be discussed later, we can also assess the possibility the participant did not flip a coin at all (i.e., did not really perform the task), through analysis of the task response times. Of course, this task cannot identify cheaters at the individual level, but others have found that those who report more HEADS on this specific multi-flip Coin Flip task are also those who are more likely to have

cheated in a separate task where the individual cheater is identifiable (Dickinson and Masclet, 2023).⁶

3.1.2 The Social Value Orientation (SVO) task

We administered the social value orientation (SVO) task (Murphy et al., 2011) to document where one's preferences lie along a spectrum that considers both individualist and pro-social orientations. The task elicits preferences across a series of allocations that describe one's own payoff as compared to another's payoff in the allocation. In fact, one may consider a test of the relationship between one's SVO measure and outcomes in the ethical choice domain to be a test of the predictive validity of the SVO.⁷ We also note that selfishness in the SVO allocation choice task creates a real victim, in a sense, given that more selfish choices occur at the expense of another participant. Thus, more pro-social tendencies in the SVO can be considered antecedents to positive organizational citizenship behaviors of interest to organizations.

3.1.3 The Trolley Dilemma task

We also presented participants with a particular set of Trolley dilemma scenarios that allows for a better identification of morally dubious behavior than is typical. In the classic Trolley dilemma (Foot, 1967), 5 individuals will be killed by a runaway train/trolley unless you pull a lever to divert the trolley to a sidetrack where one person will instead be killed. A confound in the Trolley dilemma not typically recognized is that a utilitarian choice (i.e., pull the lever to save a net 4 lives) is also the choice that makes one *directly* responsible for a death, rather than passively responsible. If there is a moral aversion to *not* be directly responsible for someone's death, this aversion may conflict with a desire to save the most lives overall. While this is the very nature of the Trolley dilemma, it critically means that utilitarian choices are not so easily identified as choices made only for the greater social good.⁸

⁶ And others have found that lab cheating that is not verifiable at the individual level can still predict fraud in a field setting (Dai et al., 2018).

⁷ Murphy et al. (2011) document evidence of predictive validity in terms of SVO and cooperation in Prisoner's Dilemma games.

⁸ Additional versions of the trolley dilemma may further alter the environment by make it more personal (i.e., "push" an individual rather than pull a lever or identify the types of people who may live or die). Kroneisen and Heck (2020) also recognize this complication in assigning a utilitarian label to the simple action that save more lives than are lost in the classic Trolley dilemma. Hauser (2006) goes into more detail regarding moral principles that are likely used in such moral dilemmas, but the question of dark personality exceptions to such rules remains.

If the traditional dilemma saves 5 lives at the expense of 1 life, let us refer to this as a (5:1) Trolley dilemma. In our task, participants are asked to make the choice to pull the level or not for the following set of 6 Trolley dilemma scenarios: (5:1), (1:1), (5:0), (5:5), (2:1), (1:0). Figure 1 shows an example of the visual stimulus presented to the participant (in this case, the (1:0) dilemma). The usefulness of this particular set of dilemmas is that several types can be distinguished from one's responses. Trolley scenarios (5:1), (5:0), (2:1), and (1:0) are all dilemmas where it would be utilitarian to pull the lever. To *not* pull the lever in scenario (5:0) and/or (1:0) would be particularly troubling, however, since pulling the lever saves people and does *not* lead to being directly responsible for any deaths. Failure to "pull the lever" in scenario (5:0) or (1:0) can be considered an immoral *act of omission*. Additionally, there is no benefit in terms of lives saved/lost in choosing the pull the lever in Trolley scenarios (5:5) or (1:1). Since it has been found that most prefer to *not* be directly responsible for one's death (versus passively allowing it, see Descioli et al., 2011, on this point), we can consider it an immoral *act of commission* to pull the lever in either of the (5:5) or (1:1) scenarios. Thus, our set of Trolley dilemmas allows for a more precise and useful categorization of one's ethics than is typical.

4. HYPOTHESES

Preregistered hypotheses were developed from the existing literature (discussed above) linking dark personality traits, particularly sadism, psychopathy, and Machiavellianism, to various forms of unethical or immoral conduct. Dark personality traits have been previously linked to less prosocial behaviors in at least one incentivized decision task. Previously noted differences in emotion regulation in those with Machiavellian or psychopathic traits may also contribute to reported utilitarian choices in moral dilemmas. Finally, the particular link between sadism and pleasure from another's pain motivated a hypothesized positive relationship between sadism and immoral acts of omission and commission in the Trolley dilemma. The following hypotheses related to this study were preregistered on the Open Science Framework prior to data collection.⁹

⁹ The full set of hypotheses, which includes others not directly related to this paper, can be found in the preregistration document at <https://doi.org/10.17605/OSF.IO/A8QVD>. The hypotheses are listed here may be ordered differently than in the preregistration document for exposition purposes. Preregistered hypotheses not directly related to this paper are examined in the Online Supplement Information Appendix.

Hypothesis 1: Those with higher levels of dark personality traits will have lower levels of pro-sociality, as measured by the SVO (social value orientation measure).

Hypothesis 2: HEADS reported on the coin flip task will be positively (negatively) related to dark (light) personality traits.

Hypothesis 3: Dark personality traits, in particular Machiavellianism and psychopathy, will predict utilitarian choices.

Hypothesis 4: Higher levels of psychopathy and Machiavellianism will predict reduced levels of baseline and post-Trolley task self-reported emotion, as well as less emotion-level change.

Hypothesis 5: Sadism will predict a greater likelihood of an immoral act of omission or commission (in the Trolley dilemma).

Hypothesis 6: Immoral acts (choices) of omission or commission in the Trolley dilemma will predict the # HEADS reported in the Coin Flip task.

4.1. A simple framework for moral decision-making

While the testable hypotheses were primarily derived from previous empirical findings, a general framework for decision making is useful to help organize our thinking regarding underlying mechanisms. Researchers have noted the importance of social or personal norms in understanding choice (see, e.g., Bicchieri, 2005; Elster, 1989; Dubreuil and Grégoire, 2013), but these frameworks typical do not consider that personal norms may be immoral or unethical. For example, dark personality types may differ in subjective norms as a reason for unethical intentions (in this case, contract cheating: see Curtis et al., 2022), or group dynamics in a firm may lead to a shift in the perceived acceptability of a dishonesty norm (Kocher et al., 2018). While there are a variety of available frameworks that penalize utility for deviations from some ideal behavior, consider the following utility function (Mascllet and Dickinson, 2019):

$$U(a) = b(a) - c(a) - v(a - \hat{a})$$

Here, utility for a particular behavior or action, a , is not only a function of benefits, $b(a)$, and costs $c(a)$, but there is also a disutility associated with deviations from some target behavior, \hat{a} , via the term $v(a - \hat{a})$. A general specification such as this allows one to have any target behavior within her preferences, moral or immoral. The specification can be modified and one's target action may or may not be subject to social influences (see Mascllet and Dickinson, 2019),

but this framework is simple and can describe many of our hypotheses as stemming from the belief that dark personality types have different morals or personal norms reflected in \hat{a} .

Alternatively, it would be empirically indistinguishable if we assume that dark personality types (e.g., those higher in psychopathy) understand society's moral norm, \hat{a} , but they simply weight deviations from \hat{a} to a lesser extent in their utility functions—for example, $U(a) = b(a) - c(a) - \delta v(a - \hat{a})$, where $\delta \in [0,1]$ and $\frac{\partial \delta}{\partial \text{psychopathy}} < 0$.¹⁰ This framework would predict a greater level of unethical behavior from dark personality types when the norm is defined as a moral action, \hat{a} .

5. RESULTS

In total, n=2565 participants completed the study via the Prolific platform (n=1261 residing in the UK, n=1304 residing in the US). Of these, n=2463 participants (n=1203 UK, n=1260 US) passed the attention checks within the survey. Age and sex were not elicited on the survey but were downloaded from the available characteristics provided on all study participants from Prolific. Some participants did not have such data available (participants are allowed to withdraw consent to share those data with researchers), and so the sample available with age and sex was n=2413 (n=1178 UK, n=1235 US). We preregistered plans to analyze data from those who had no missing survey data, but we did not anticipate that some profile data may be incomplete from Prolific. In general, we present all results from estimations that do and do not include demographic characteristics as control variables as a robustness check.

Figure 2 shows the general tendencies in our sample regarding average light and dark personality measures. Each dimension of the dark tetrad or light triad measures on a similar 1-5 scale, and so scores for each dimension were averaged across the light triad and dark tetrad measures. These data in Figure 2 are similar to those reported in Kaufman et al., (2019) in that they show tendencies towards a *relatively* lighter over dark personality type. We can see that a nontrivial level of dark personality is not uncommon, even among those who score higher on the

¹⁰ Dickinson and Masclet (2023) suggest such a utility function in examining how the temporary state of sleep restriction may desensitize one towards making less ethical choices. They derive the condition that a decrease in the sensitivity weight, δ in our case here, will increase one's cheating, a , further above a moral norm of no cheating. In our case the result is that more dark personality, which decreases δ , will increase immoral actions.

light triad measures. The shaded regions in Figure 2 highlight the approximate 10% tails of our sample in terms of *relatively* most light or dark, which highlight an overall greater variation in mix of dark versus light personality traits among those who higher in the dark traits.

Hypothesis 1 test—Dark personality and prosociality

To examine the impact of dark personality traits on prosociality, the dependent variable is the continuous measure one’s “*SVO angle*” as derived from the SVO task and as calculated in Murphy et al. (2011). Here, the higher one’s *SVO angle*, the higher one’s orientation towards prosociality. We estimated linear regression models with the *Dark Triad* or *Dark Tetrad* as key measure of dark personality tendencies. Simple regressions are compared next to regressions that controlled for age and sex, and that additionally control for Big-5 personality traits. Finally, though we did not preregister hypotheses relating light personality traits to prosociality, in the spirit of Hypothesis 1, we also estimated models that regressed *SVO Angle* on the *Light Triad* measure, as well as on the *NetLight* measure (i.e., $NetLight = Light\ Triad - Dark\ Tetrad$). The results are shown in Table 1, and they support Hypothesis 1.

Finally, in order to examine the impact of individual dark versus light personality trait measures’ on prosociality, we regressed similar models to those in Table 1 with the key independent variable being the specific dark or light traits. These models included the full set of control variables, and we summarize the results by means of the coefficient plots in Figure 3 (see online Appendix A for full estimation results). Here we see that each dark trait individually predicts a significantly lower *SVO Angle*, and each light trait predicts a significantly higher *SVO Angle*. In short, the data are consistent with the specific preregistered Hypothesis 1. More generally, they also show that light personality traits, as well as the relative lightness over darkness of one’s personality, are associated with a more prosocial personality orientation.¹¹

Hypothesis 2 test—Coin Flip task and dark/light personality

¹¹ Results are similar if restricting the analysis to those who are highest and lowest on the *NetLight* scale (i.e., the shaded region of participants in Figure 2). Results are available on request. It should be noted that it may not be considered valid to combine the distinct constructs of *Dark* and *Light* triad measures to construct the *NetLight* variable. While we use the *NetLight* construct in places for comparison purposes, all key results are shown when using the separate constructs (or, in more detail, using the individual personality traits) in our estimations.

Models similar to those used to evaluate Hypothesis 1 were used to examine Hypothesis 2, with the difference being the dependent variable, *HEADS*. The results are reported in Table 2 and show that the dark personality clusters are stronger predictors of higher reported *HEADS* outcomes in the Coin Flip task than light personality trait clusters. Given the lack significance of *Light Triad* in model (5), we also conclude that the significance of the *NetLight* coefficient estimate in model (6) is a result of the *HEADS* report variance predicted by the dark personality trait clusters. Because dark personality traits predicted an increase, and the *NetLight* measure predicts a decrease, in *HEADS* reported these results offer support for Hypothesis 2.

Figure 4 (see also Appendix Table A2) shows coefficient plot results from estimation results for regressions of *HEADS* reports on the separate individual personality trait measures. At the individual trait level, the dark personality traits have a more marginal significance in predicting higher reported *HEADS* as compared to when the traits were considered in clusters (i.e., the dark triad or tetrad), but overall these results support Hypothesis 2.

Hypothesis 3 test—Dark personality traits, in particular Machiavellianism and psychopathy, will predict utilitarian choices.

Table 3 shows results of models regressing the proportion of utilitarian choices made in Trolley dilemma scenarios (1:0), (2:1), (5:0), and (5:1). We therefore score *Proportion Utilitarian Choices* equal to .0, .25, .50, .75, or 1.00. We excluded Trolley dilemma (5:5) and (1:1) from this analysis give the lack of a unique utilitarian choice in those scenarios. Though previous studies have reported that dark personality traits may favor utilitarian choices in the Trolley dilemma (e.g., due to the emotion detachment that may help one make a difficult choice in such a dilemma), our data fail to support Hypothesis 3. In fact, we report that light personality traits, not dark, predict utilitarian choices in our data. Because the set of 4 Trolley dilemmas analyzed included dilemmas where utilitarianism is confounded with direct responsibility for a death (i.e., the typical (5:1) and (2:1) dilemmas), we also conducted similar analysis using just the (1:0) and (5:0) dilemmas that would most unambiguously identify utilitarian choice and our results were similar (these results are available on request). Separate regressions on specific individual dark or light personality traits also found no predictable relationship between dark personality traits and utilitarian choice, while it is specifically the light traits of “humanism” and “faith in humanity” that predict a utilitarian choice in our data (see online Appendix Table A3).

Hypothesis 4 test: Psychopathy and Machiavellianism will predict lower baseline mood and post-Trolley mood levels, as well as a lesser mood level change pre- to post-Trolley dilemma.

The hypothesis preregistered focused on the specific dark traits of psychopathy and Machiavellianism, though we present estimation results that examine all 4 darks traits and their association with self-reported mood. Table 4 shown results from estimations where an average of baseline mood is regressed on the different dark personality traits, with controls for the Big-5 traits, age, and sex. The dependent variables were the average positive mood (averaged 7-point Likert-scale self-ratings of happy, enthusiastic, interested, determined, and proud) or average negative mood (averaged 7-point Likert-scale self-ratings of irritated, distressed, ashamed, angry, and sad) assessed at the beginning of the survey (prior to any decision task administration). Each of the dark traits predicted an increased level of baseline negative mood, while Narcissism also predicted increased baseline positive mood. Female or younger participant was associated with lower baseline levels of positive mood, while younger participants also predicted higher baseline negative mood. In general, aside from the Big-5 trait of *openness*, all other Big-5 traits predicted higher positive and lower negative baseline mood. Results in Table 5 are from similar models with the dependent mood variables being those elicited after completing the Trolley task.

Because some variables were found to predict an increase in positive or negative mood both before and after the Trolley task, we also constructed a variable measuring the change in one's net *positive-negative* mood reports from baseline to post-Trolley task. This variable, *Net Positive mood change*, was used as the dependent variable in a series of similar regressions, where we also considered the light-triad personal traits as regressors. These results are shown in full in the online Appendix Table A4, but we summarize the key personality trait effects also in Figure 5 (which also summarize the key estimated dark trait effects from Tables 4 and 5).

Overall, our data fail to support Hypothesis 4, which stated that psychopathy and Machiavellianism would predict lower baseline and post-Trolley mood, as well as a lesser mood change after completing the Trolley task. However, the results suggest mood dysregulation is perhaps the more potent variable to consider. Specifically, estimated mood effects summarized in Figure 5 indicate that psychopathy and Machiavellianism stand out in that they predict a

unique (and, perhaps disturbing) mood shift toward increased positive and reduced negative mood after going through the hypothetical life-and-death moral dilemma task.¹²

Hypothesis 5 test: Sadism will predict a greater likelihood of an immoral act of omission or commission (in the Trolley dilemma).

The key outcome of what we defined as immorality in the Trolley dilemma is that individuals would be either unnecessarily killed (immoral act of omission) or killed preferentially by one's action rather than inaction (immoral act of commission). As such, these acts of (hypothetical) immorality seem most linked to the trait of sadism among the dark traits. Hypothesis 5 is tested in a series of linear probability regressions that defined the dependent variable as an immorality indicator variable.¹³ That is, we set *Immoral omission* = 1 if the participant chose the immoral action to not "pull the lever" in either or both of the Trolley dilemmas ((5:0) and (1:0)). *Immoral Commission* was set equal to 1 if the participant chose the immoral action to actively pull the lever in either or both of the Trolley dilemmas (5:5) and (1:1). We show in Figure 6 the coefficient plots summary of the key estimated effects of sadism on the likelihood of committing an immoral act. Models were run with and without control variables for sex, age, and the Big-5 personality traits, and we also include comparison results that use the *NetLight* personality measure in place of the *sadism* personality control. The results support Hypothesis 5 in that those with high levels of the sadism trait are significantly more likely to commit an immoral act of omission and commission in the Trolley dilemma.

Though the preregistered hypothesis specified sadism as the key personality trait of interest, we also estimated similar models examining each of the individual dark or light personality trait effects on Trolley immorality. Each of the 4 dark personality traits positively predicted the likelihood of choosing to pull the lever in the Trolley (1:1) and/or (5:5) dilemmas (i.e., immoral act of commission), while light personality traits were statistically insignificant in

¹² These results are similar if using the Dark or Light cluster measures in place of individual trait measures to assess the impact of personality trait. That is, higher scores on the Dark Tetrad predict an increase in one's net positive mood change, and higher scores on the Light Triad predicts a reduction in one's net positive mood after completing the Trolley task (as does one's *NetLight* personality score). In short, more light personality types have a more negative change in their self-reported mood after completing this task, while mood turns more positive after this task for those with more dark personalities (and those effects seem driven largely by psychopathy and Machiavellianism scores).

¹³ Virtually identical results in sign and significance are found using nonlinear Probit estimations, and so we report linear probability regression results for simplicity and ease of interpretation.

these estimations. Regarding choices to *not* pull the lever in Trolley (1:0) and/or (5:0) dilemma, psychopathy and sadism predicted an increased likelihood, while humanism and faith in humanity predicted a reduced likelihood, of choosing this immoral act of omission. These results are reported in full in the online Appendix Tables A5 and A6.

Hypothesis 6 test: Immoral acts (choices) of omission or commission in the Trolley dilemma will predict the # HEADS reported in the Coin Flip task.

The essence of Hypothesis 6 is to test whether presumed immorality in the hypothetical choice dilemma predicts dishonesty in the consequential task. For these regressions, the indicator variable for an immoral act of omission or commission is used as an independent variable to predict the dependent variables *HEADS* reported in the Coin Flip task. Figure 7 shows the summary of these estimations results for models that varied in the set of control variables. The data fail to support Hypothesis 6 as we find no statistically significant impact of one's Trolley immorality choice on predicting *HEADS* reported. The full model results are shown in the online Appendix Tables A7, which highlight that main Coin Flip task results in Table 2 that younger participants and those with higher measures of *NetLight* predict higher *HEADS* reports.

6. ADDITIONAL EXPLORATORY ANALYSIS—Fake Flippers

Response time (RT) data allowed for additional exploratory analysis of the coin flip task data, which is potentially useful as a simple measure of task performance (or, rather, task shirking). Specifically, Dickinson and McEvoy (2021) reported RT data from the same computer-interfaced coin flip task that we administered: flip a coin 10 times and report the number of heads flipped for a monetary payment based on the number of HEADS (but not TAILS) reported. Of interest for the present paper is that they also conducted the task in a physical lab setting where coin flip outcomes were still private, but a physical coin had been provided to each participant. In this way, they were able to observe the actual act of flipping coins as requested in the experiment instructions, the results of which would be entered into the same computerized survey interface as was used for the online version of the task administered remotely. These task similarities are important, because they allow for a direct comparison of the RT distributions of the 10-flip task done remotely versus in-lab where the experimenters could document that the requested flipping of the coin was done. For the identical 10-flip task that was administered

here, Dickinson and McEvoy (2021) report from a sample of $n=192$ in-lab participants that the 1% cutoff of fastest RTs for the in-lab sample was about 43 seconds. They proceeded to then score an indicator *Fake Flipper* = 1 for all participants in the online administration of the same task that had $RT < 45$ seconds. Their reasoning was that a $RT < 45$ seconds is highly statistically unlikely if one is actually flipping a coin as asked, because in the benchmark in-lab RT distribution only about 1% of participants had that fast of task RT.¹⁴

Following this approach (Dickinson and McEvoy, 2021), we scored *Fake Flipper* indicator variable in our data set for all participants who had $RT < 45$ for the coin flip task. To be clear, identifying a *Fake Flipper* does not necessarily imply a dishonestly high number of Heads reported on the task, but it identifies another dimension of shirking or cutting corners that may be of interest in other real-world settings (see Discussion below). Upon scoring the *Fake Flipper* variable for our data set, we then estimated a series of Probit models to predict *Fake Flipper* as a function of each of the key dark and light personality traits. These models all included the set of control measures used in our other analyses reported above. We summarize the findings in Figure 8 via coefficient plots of the estimated personality trait effects (full results are shown in Appendix A, Table A9). Dark personality traits, in particular psychopathy and sadism, predict a greater likelihood of fake coin flipping, while the light trait, Kantianism, (and one's relative light-over-dark personality composition, *NetLight*) predicts a reduced likelihood of fake flipping.¹⁵ In fact, the impact of individual personality traits on predicting this less egregious type of misbehavior (fake flipping) was more clear than the link found between individual traits and HEADS reports. The results showing fake flipping is more likely among those with dark personality traits is also robust to considering the subset of *HEADS* reports that likely do *not* reflect cheating for monetary gain (i.e., *HEADS* reports of 5 and below). Thus, the data indicate that dark personality predicts task shirking, whether or not it leads to a suspiciously

¹⁴ As noted in Dickinson and McEvoy (2021), it is possible that some online participants resorted to virtual coin flippers for this task. However, though this may somewhat bias the RT data if virtual coin flippers were commonplace, it is still within the spirit of our aim to identify participants who did not complete the task as requested (i.e., they cut corners in one way or the other).

¹⁵ Instrumental variables estimations highlight that, though fake flipping does not equate to cheating for monetary gain regarding the actual HEADS report given, the variation in *Fake Flipper* (or Coin Flip RT, in general) predicted by one's *NetLight* personality measure predicts a significant increase in one's HEADS report. That is, if we use *NetLight* as the exogenous instrument for one's coin flip RT, a quicker RT as predicted by *NetLight* then predicts significantly more HEADS reported. These results are available on request.

high number of *HEADS* reported.¹⁶ Finally, it is worth noting that regressions similar to those reported in our test of H6 (i.e., does Trolley immorality predict consequential HEADS reports) found that, though making immoral acts of commission choices in the hypothetical Trolley dilemma did not predict a significant increase in one's coinflip task HEADS reports, such Trolley immorality *does* predict a greater likelihood of being a *Fake Flipper* ($p < .05$, see Appendix Figure A1 coefficient plots).

7. DISCUSSION

The data supported some of our preregistered hypotheses (H1, H2, and H5), failed to support others (H3 and H6), and revealed somewhat related support for H4 in the sense of highlighting that dark personality traits may differ in their mood response to the Trolley dilemma task. The overall theme of our results suggests that dark personality traits are related to lower prosocial tendencies and an increased likelihood of making choices likely considered immoral in both hypothetical and consequential decision environments.

These findings have practical implications in occupational settings because organizational citizenship behaviors (e.g., prosociality) and counterproductive/deviant workplace behaviors (e.g., dishonesty or immorality) represent two of the three broad dimensions that commonly describe a worker's job performance.¹⁷ The third dimension, task performance (see Zettler, 2022), is addressed at least partially with our exploratory findings that dark personality also predicts a tendency to shirk and fake one's effort. Though our data identify a strong correlation between fast coinflip task response times (i.e., fake flipping) and *HEADS* reports, even fake effort without intent to increase earnings dishonestly (e.g., just submit a report of *HEADS*=5 and move on) should be of concern given how it may manifest in a field setting. Imagine, for example, an audit task. If most audits do *not* reveal dishonest book-keeping, then the average outcome of a laborious audit would be the conclusion that no issues were found. It

¹⁶ The model estimating the probability of *Fake Flipper* = 1 here examines the full dark tetrad measure as the key independent variable measure of dark personality (with controls for age, sex, and Big 5 measures). The coefficient estimate for the full sample ($n=2413$) on *dark tetrad* is .30 ($p < .001$), whereas on the subsample of *HEADS* < 6 reports ($n=672$) it is .33 ($p = .017$) for the two-tailed test significance.

¹⁷ Other research on niche diversity across cultures (Smaldino et al., 2019; Durkee et al., 2022) also suggests in that in the U.S, U.K., and much of western Europe, the large variety of social and ecological niches promises a high personality trait diversity within these populations. As such, a certain proportion of dark personality types is sustainable in many cultures and emphasizes the importance of understanding behavioral tendencies that may systematically differ in these dark types.

may therefore be tempting to simply shirk on such a task, cut corners, and sign off that the audit was cleanly passed, which obviously would expose the firm to unnecessary risk. Shirking on such a high-stakes task may not be comparable to our small-stakes coin flip task, but the underlying principle is similar. Our exploratory results suggest that task performance among dark personality types may also suffer when impression management is low-cost and monitoring more costly.

Others have reported an increase in utilitarian choices by individuals possessing dark personality traits (e.g., Bartels and Pizarro, 2011), but our results do not support this hypothesis. Typical studies reporting this relationship between dark traits and utilitarianism have used Trolley or similar moral dilemma environments with the noted confound between the utilitarian choice and direct responsibility for others' deaths. We removed this confound in a subset of our Trolley dilemmas, but even if we restrict our analysis to dilemmas that contain this confound, our results do not support previous findings regarding dark personality traits and Utilitarian choice. Rather our data show robust evidence that those with more light personality traits are more likely to make the utilitarian choice. This is true even though the lighter personality types reported a net-worsening of their mood after completing the Trolley dilemma task

How mood relates to dark personality traits in these hypothetical moral dilemmas is curious. Our specific preregistered mood hypothesis was not supported, but exploratory analysis identified a stark difference between the mood shift reported during before and after the administration of the Trolley dilemma task for those lighter versus dark in their personality traits. Whether this mood shift could explain choices is an interesting one. Exploratory analysis did not find a significant direct impact of one's "Trolley mood shift" on the likelihood of *Immoral omission* or *Immoral commission* choices. However, instrumental variables analysis showed that the increased post-Trolley positive mood explained by *lower* values of *NetLight* (i.e., higher values of *NetDark*) significantly predicted a greater likelihood of *Immoral Omission* choices ($p = .02$), *Immoral Commission* choices ($p < .01$), and a greater number of *HEADS* ($p < .01$) (see Appendix Table A8 for full results). Though our main hypothesis test of H6 did not support the direct connection between Trolley dilemma choices and consequential choices in the Coin Flip task, these exploratory results suggest further research is needed to identify the extent to which extent there is a link between mood response, hypothetical moral dilemma choices, and consequential choices in the ethical domain. This is important given past research reporting that

choices in hypothetical dilemmas do not predict choice in (somewhat) similar consequential versions of the dilemma (Bosyn et al., 2018), but yet others have found they may predict antisocial choice in other consequential environments (Dickinson and Masclet, 2019).

Of course, important limitations of this study should be recognized. If self-report measures are used to evaluate personality and make judgments regarding one's ethics, then participants may wish to respond in socially acceptable or desirable ways (Zerbe and Paulhus, 1987). Alternatively, in task settings one may respond to hypothetical dilemma questions or make choices in consequential temptation tasks in ways deemed to align more with acceptable norms. While we did not attempt to measure any social desirability bias (e.g., see Stöber, 2001), the anonymous nature of the online study administered through a 3rd party platform likely limits the concern of social desirability bias in the present data. However, it is unclear how seriously a social desirability bias may impact personality profile responses in less anonymous settings, such as with personnel selection in an occupational setting. To the extent that this bias may exist in the current study, its presence would imply that our evidence linking dishonest or immoral choice tendencies to dark personality dimensions would be underestimated. Also, a larger literature has addressed the concern over use of personality measures in organizations and the tendency for candidates to inflate positive aspects of personality in such contexts (see Birkeland et al., 2006). Strategies to reduce job applicant distortion on personality tests may include more indirect assessment of personality, which may favor nonstandard outcome measures such as response time analysis, or the use of hypothetical dilemma choice assessments over more direct personality tests.

This study did not set out to compare ethical behaviors across cultures, and so no hypotheses were preregistered to compare results in the US and UK subsamples of our data. However, if one conducts our analysis on the separately subsamples of participants from each location (what a robust sample size of over n=1200 per location), then we find that some notable differences emerge. The significant results found to support H1, H2, and H5 are primarily due to the US subsample of participants. However, the surprising exploratory finding that showed an increase in positive mood after completing the Trolley task was only statistically significant in the UK subsample of participants. These findings may suggest an interesting influence of one's

culture or societal norms on the link between personality and behavior. While this was not the focus of the present study, it would seem to merit more systematic investigation going forward.¹⁸

The cross-sectional nature of the study implies our results are more indicative of correlations or associations, as opposed to causation. This is a criticism common to much of the research in this area, as any proper experimental design would seek to randomly assign, or manipulate in a within-subjects manner, the key predictor of interest: personality type. Random assignment of personality traits is, of course, not feasible. We therefore hope that our study will be an important contribution to a literature that can identify systematic relationships between personality and moral choice using many complementary approaches.

Finally, the present paper only explored a limited set of decision environments that do not capture the full breadth of how unethical behaviors may manifest, and they do not examine ethics in less anonymous situations.¹⁹ For example, those influenced by one's immoral choices may be more or less socially distant with the decision maker, the choice itself may be more or less observable by others, or reputation building may lead to creative dishonesty that preserves plausible deniability (Tergiman and Villeval, 2023). Researchers have articulated a difference between social norms versus moral (personal) norms (see Bicchieri, 2005; Elster, 1989; Dubreuil and Grégoire, 2013), and the present research did not seek to identify or measure participants' perceptions of such norms. Are differences in ethical choices due to key differences in views of social or moral norms, or are they due to differences dark personality types may have in concern for such norms? Some recent research has suggested that dark personality types differ in subjective norms as a reason for unethical intentions (in this case, contract cheating: see Curtis et al., 2022). These (and likely other) limitations point to the need for additional work. Nevertheless, the present paper hopes to have contributed to our understanding of how dark versus light personality traits may be associated with socially undesirable behaviors or choices in the face of moral dilemmas, because these behaviors are practically relevant in organizational settings (and beyond).

¹⁸ Curiously, Frey et al., (2020) reported that British passengers were 8-9 % less likely to survive the Titanic disaster than other passengers, *ceteris paribus*. This suggests a potential difference in how UK participants in our study may view norms surrounding life-and-death moral dilemmas.

¹⁹ Sabotage is another example of counterproductive workplace behavior that may arise in environments where rank-order tournament incentives are present for workers (e.g., see Charness et al., 2014 for clear lab evidence on sabotage efforts).

FIGURE 1: Trolley Dilemma visual stimulus used in survey
 (1:0) dilemma—pulling lever saves 1 life on main track and no one is killed on the side track

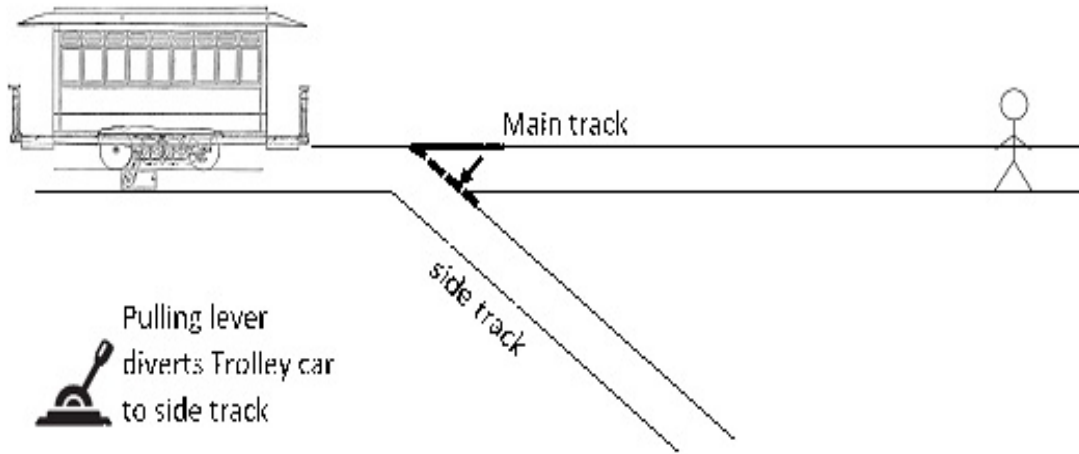
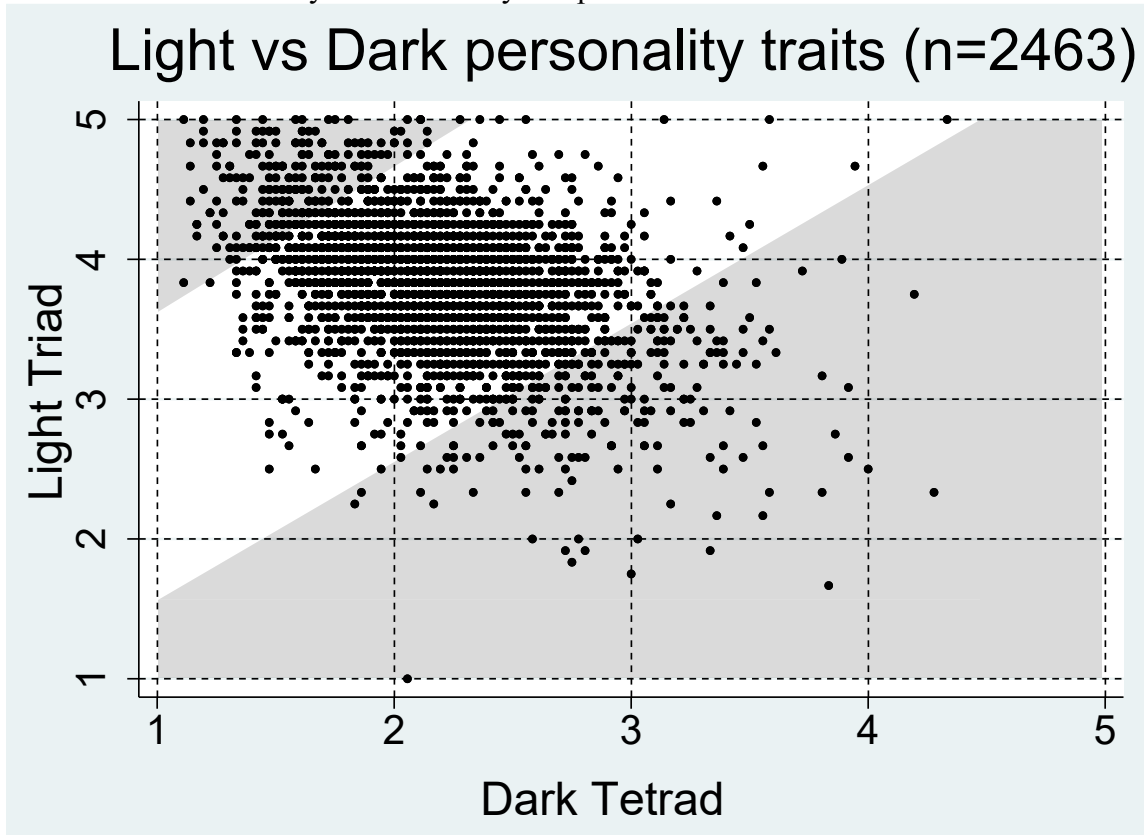
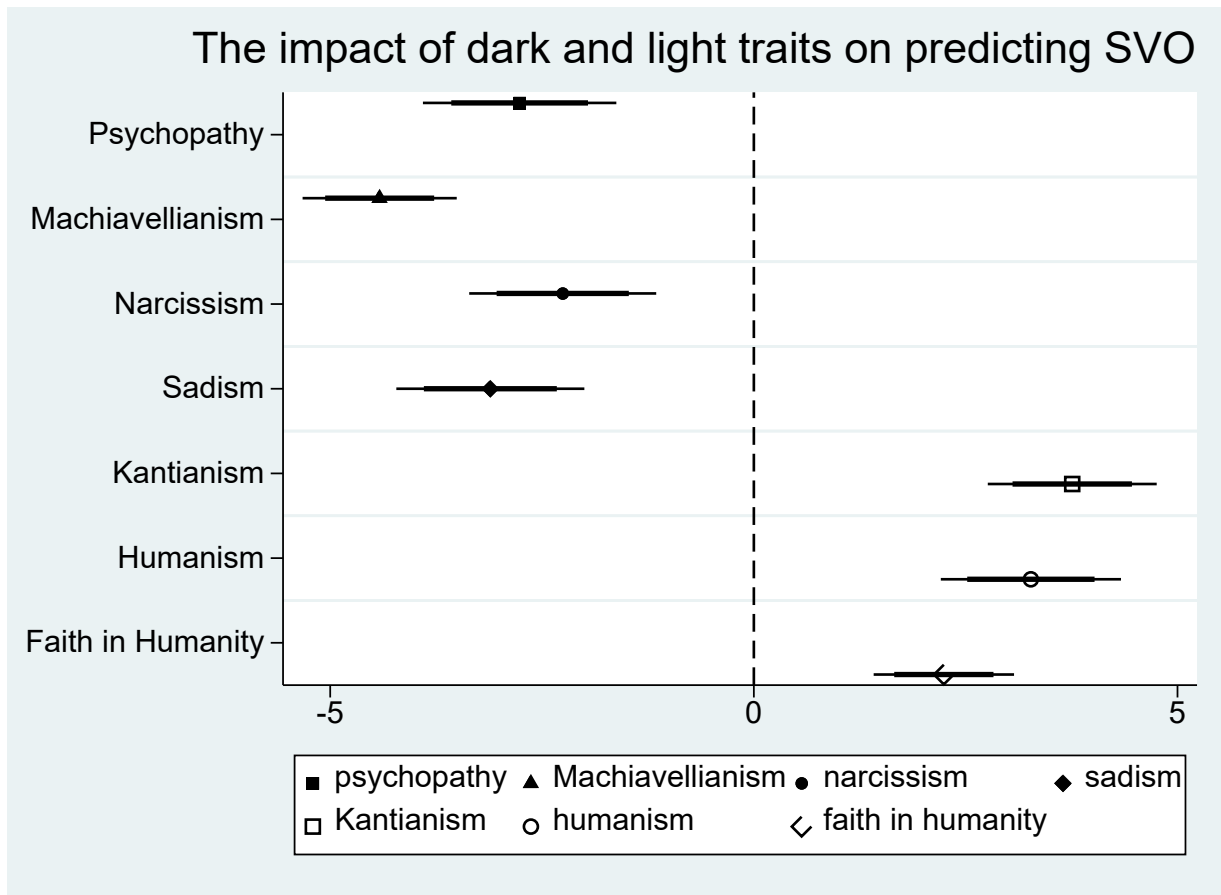


FIGURE 2: Personality Traits in study sample



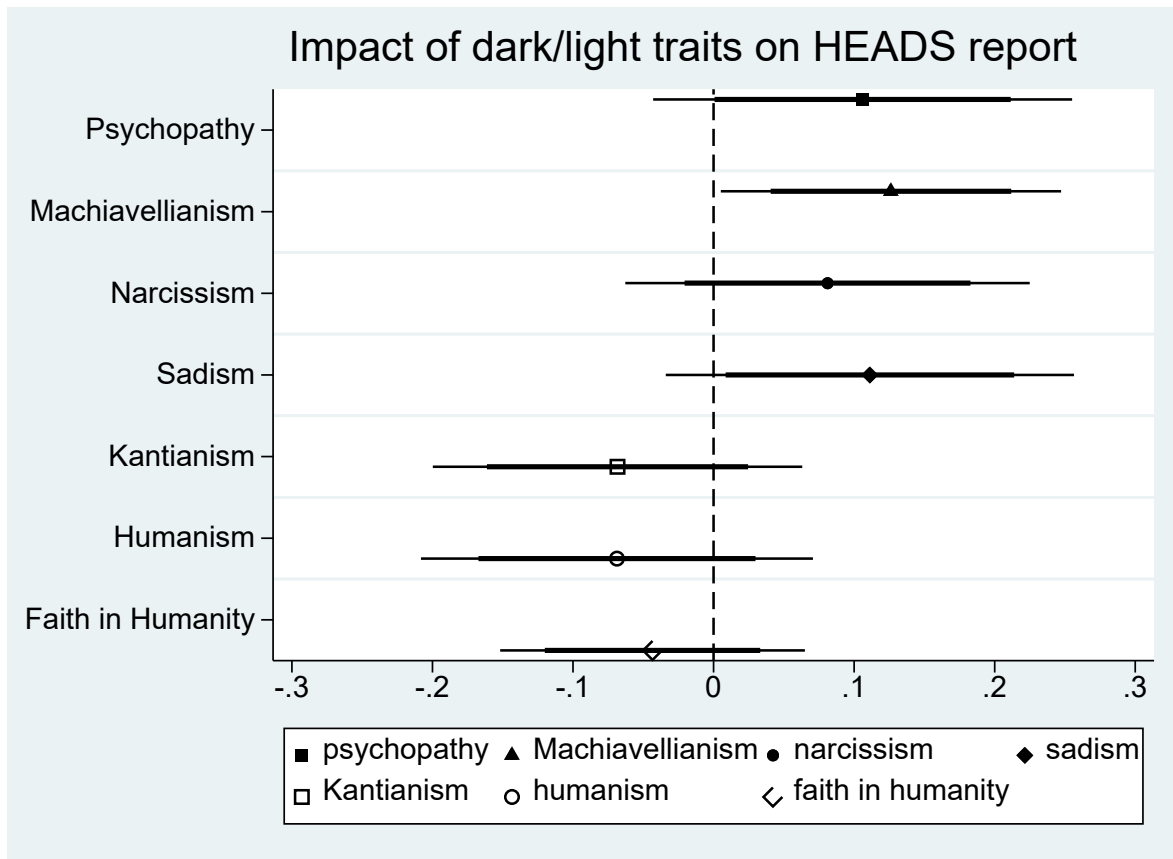
Notes: Shaded regions show the approximate cutoff for the upper and lower 10% of participants in terms of their Light-Dark average traits (NetLight > 2.65, n=234; NetLight < .55, n=245)

FIGURE 3: H1 coefficient plots—personality traits and SVO.



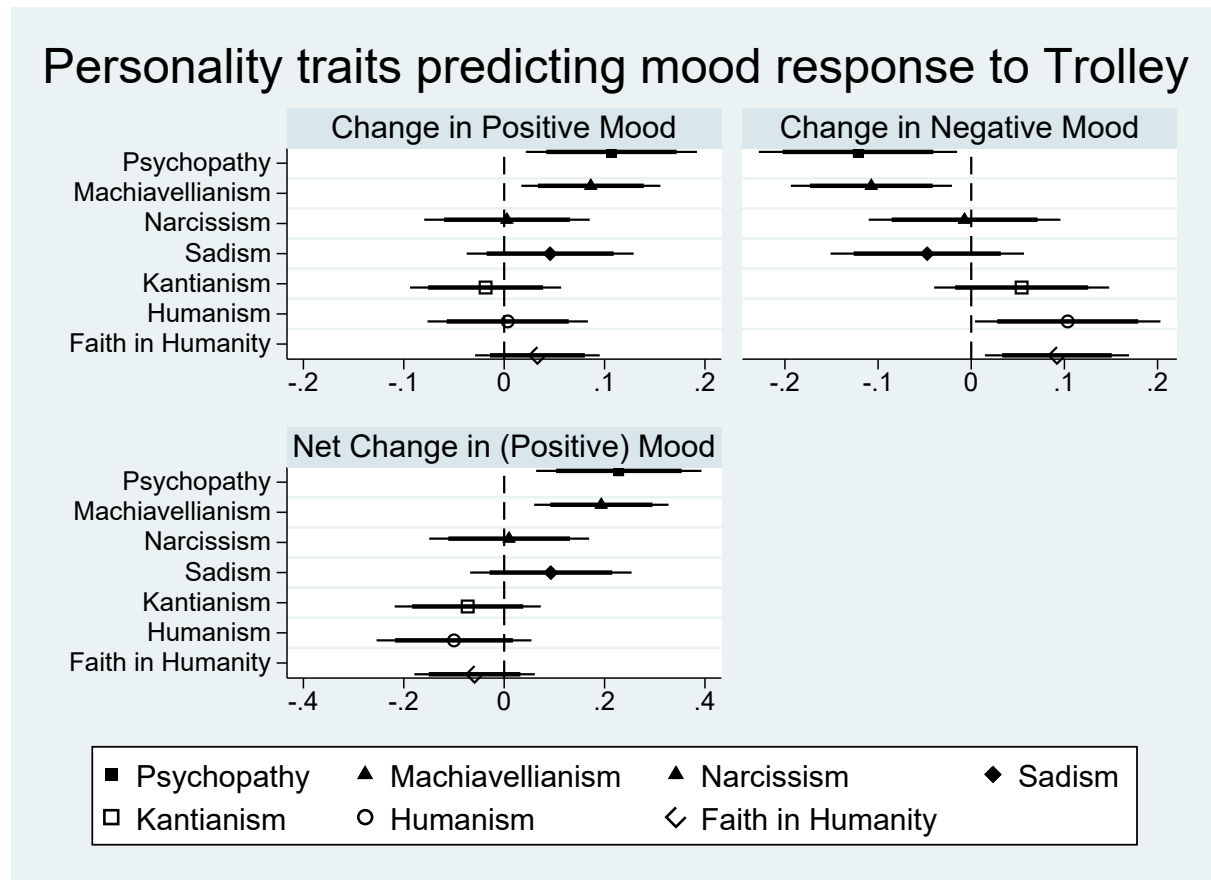
Notes: Bars show the 99% (thin bars) and 95% (thicker bars) confidence interval for a 1-tailed test (preregistered hypotheses) on the coefficient estimate of the personality trait's effect on *SVO Angle*. Models estimated include controls for age, sex, and the Big 5 traits.

FIGURE 4: H2 coefficient plots—personality traits and Coin Flip task.



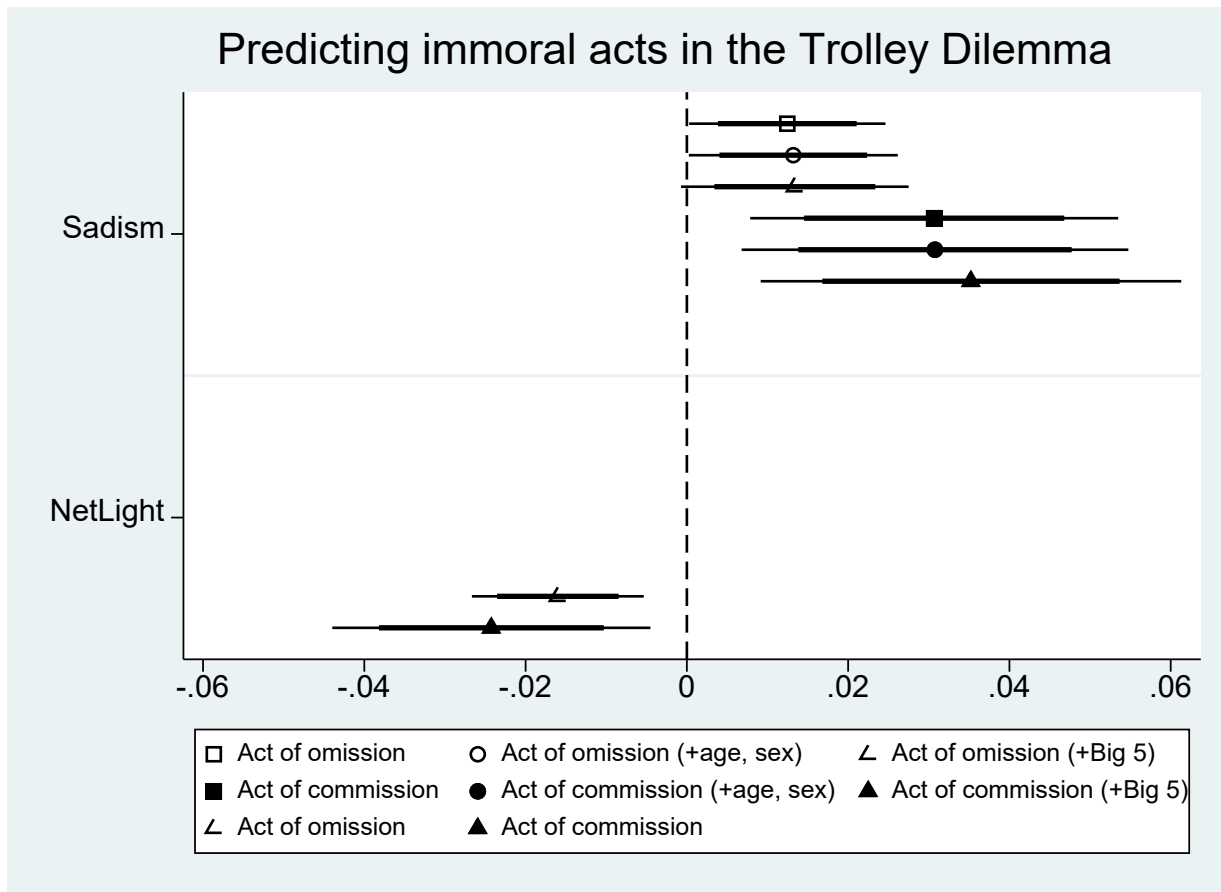
Notes: Bars show the 99% (thin bars) and 95% (thicker bars) confidence interval for a 1-tailed test (preregistered hypotheses) on the coefficient estimate of the personality trait's effect on *HEADS* reported in the Coin Flip task. Models estimated include controls for age, sex, and the Big 5 traits.

FIGURE 5: Differential mood response to completing the Trolley dilemma



Notes: Bars show the 99% (thin bars) and 95% (thicker bars) confidence interval for the 2-tailed test on the coefficient estimate of the personality trait’s effect on one’s self-reported mood change from baseline to immediately after the Trolley dilemma task. Two-tailed tests confidence intervals are shown in this instance given the results fail to support Hypothesis 4, and so we can assess the opposite-hypothesized result’s significance at standard levels. Models estimated include controls for age, sex, and the Big 5 traits. Full results for the dark traits effects for the two upper panels are those in Tables 4 and 5. See Appendix table A4 for full estimation results of the Net Change in (Positive) Mood in the bottom panel.

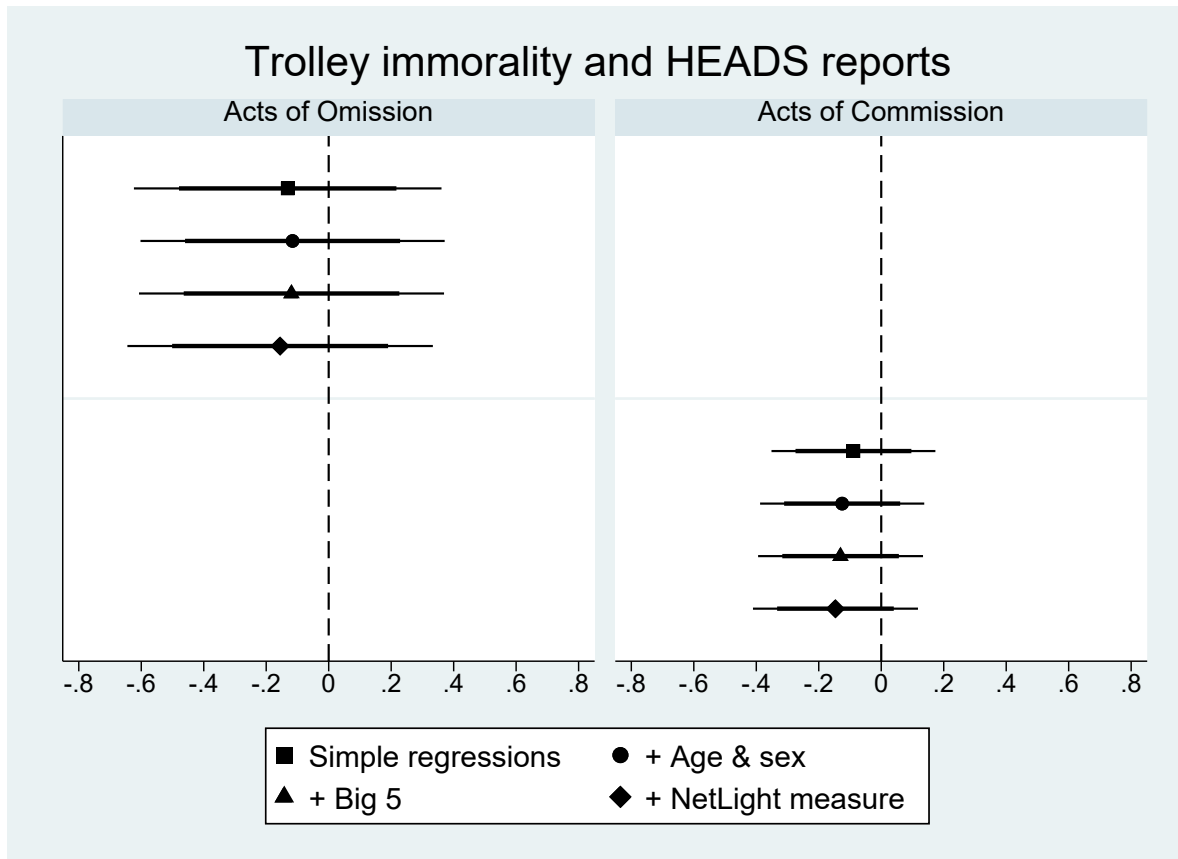
FIGURE 6: H5--Sadism (dark personality) effects on Trolley immorality



Notes: Bars show the 99% (thin bars) and 95% (thicker bars) confidence interval for the preregistered 1-tailed test on the coefficient estimate of the personality trait’s effect on the likelihood of choosing an immoral act of omission or commission. See Appendix Tables A5 and A6 for analysis using individual-specific personality traits as regressors.

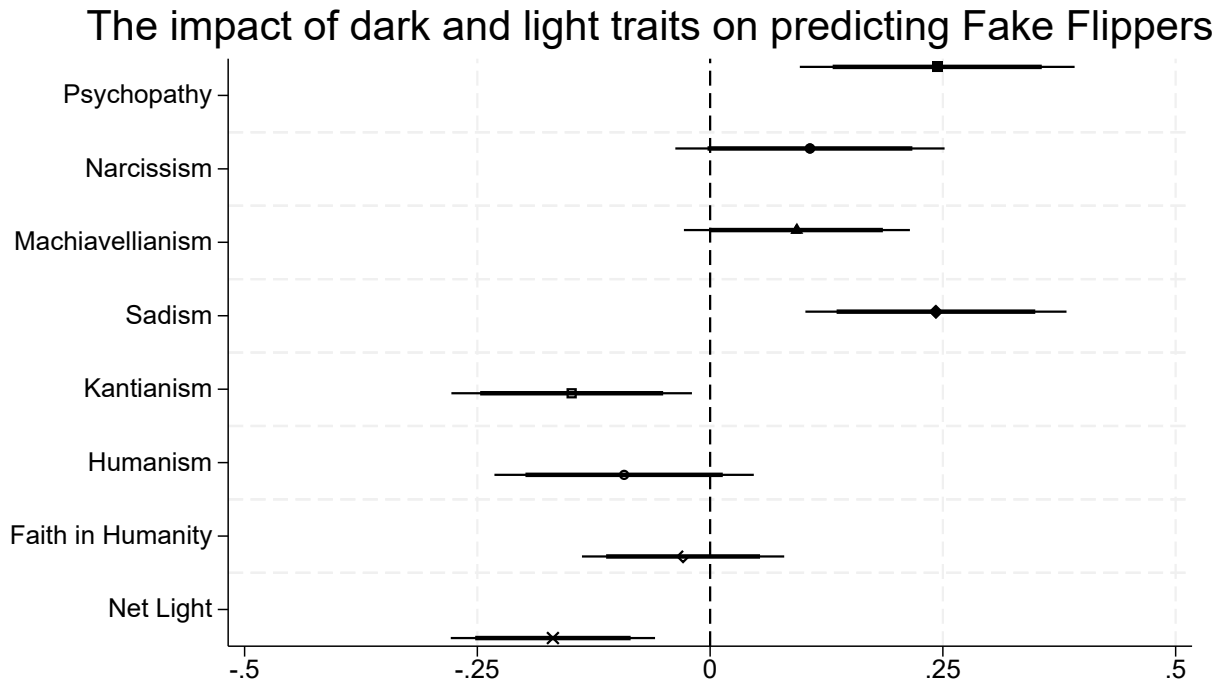
FIGURE 7: H6 test—Trolley immorality as predictor of HEADS reports (Coin Flip task)

(Dep variable=HEADS: Independent variable is indicator for those who made an immoral act of omission or commission choice in the Trolley dilemma task)



Notes: Bars show the 99% (thin bars) and 95% (thicker bars) confidence interval for the preregistered 2-tailed test on the coefficient estimate (2-tailed CI shown given point estimates are opposite the preregistered effect). See Appendix Table A7 for full estimation results.

FIGURE 8: Exploratory Analysis: Predicting Fake Effort (coin flip task)



Notes: Bars show the 99% (thin bars) and 95% (thicker bars) confidence interval for a 2-tailed test (exploratory analysis) on the coefficient estimate of the personality trait's effect on *Fake Flipper*. Nonlinear Probit models estimated include controls for age, sex, and the Big 5 traits.

TABLE 1: Hypothesis 1 tests—Dark traits and *SVO Angle*

Dependent Variable = <i>SVO Angle</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Independent Variable	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)
<i>constant</i>	36.20 (1.23)**	35.15 (1.68)**	31.05 (2.40)**	32.07 (2.46)**	-28 (2.14)	16.29 (1.62)**
<i>Dark Triad</i>	-5.99 (.50)**	-5.61 (.53)**	-5.59 (.58)**	---	---	---
<i>Dark Tetrad</i>	---	---	---	-5.94 (.61)**	---	---
<i>Light Triad</i>	---	---	---	--	5.64 (.56)**	---
<i>NetLight</i>	---	---	---	--	---	4.38 (.35)**
Age	---	.003 (.02)	.008 (.02)	.004 (.02)	.046 (.02)*	.022 (.02)
Female (=1)	---	1.45 (.55)**	.66 (.57)	.58 (.57)	1.45 (.56)**	.68 (.56)
Extraversion	---	---	.54 (.17)**	.50 (.17)**	-.04 (.16)	.26 (.16)
Agreeable	---	---	.86 (.24)**	.75 (.24)**	.54 (.25)*	.15 (.25)
Conscientious	---	---	-.36 (.21)	-.42 (.21)*	-.36 (.21)	-.48 (.21)*
Emotional Stability	---	---	-.57 (.19)**	-.58 (.19)**	-.65 (.19)**	-.59 (.19)**
Openness	---	---	.31 (.21)	.25 (.21)	-.02 (.21)	.10 (.21)
Adjusted R-squared	.0543	.0547	.0667	.0673	.0699	.0884
Observations	2,463	2,413	2,413	2,413	2,413	2,413

Notes: * $p < .05$, ** $p < .01$ for 1-tailed test of a preregistered directional hypothesis. Otherwise, 2-tailed tests p -values reported.

TABLE 2: Hypothesis 2 tests—Dark/Light traits and the Coin Flip task

Dependent Variable = HEADS						
	(1)	(2)	(3)	(4)	(5)	(6)
Independent Variable	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)
<i>constant</i>	4.88 (.16)**	5.63 (.22)**	5.63 (.32)**	5.5 (.33)**	6.46 (.28)**	6.13 (.22)**
<i>Dark Triad</i>	.28 (.07)**	.18 (.07)**	.18 (.08)**	---	---	---
<i>Dark Tetrad</i>	---	---	---	.20 (.08)**	---	---
<i>Light Triad</i>	---	---	---	--	-.11 (.07)	---
<i>NetLight</i>	---	---	---	---	---	-.11 (.05)**
Age	---	-.01 (.002)**	-.01 (.002)**	-.01 (.002)**	-.01 (.002)**	-.01 (.002)**
Female (=1)	---	-.10 (.07)	-.10 (.08)	-.10 (.08)	-.13 (.07)	-.11 (.07)
Extraversion	---	---	-.0004 (.02)	.001 (.02)	.01 (.02)	.01 (.02)
Agreeable	---	---	.01 (.03)	.01 (.03)	.01 (.03)	.02 (.03)
Conscientious	---	---	-.01 (.03)	-.01 (.03)	-.02 (.03)	-.01 (.03)
Emotional Stability	---	---	-.01 (.03)	-.01 (.03)	-.004 (.03)	-.01 (.03)
Openness	---	---	.01 (.03)	.01 (.03)	.02 (.03)	.02 (.03)
Adjusted R-squared	.0068	.0157	.0139	.0140	.0125	.0139
Observations	2,463	2,413	2,413	2,413	2,413	2,413

Notes: * $p < .05$, ** $p < .01$ for 1-tailed test of a preregistered directional hypothesis. Otherwise, 2-tailed tests p -values reported.

TABLE 3: Hypothesis 3 tests—Dark/Light traits and Utilitarian Trolley dilemma choices

Dependent Variable = Proportion Utilitarian Choices						
	(1)	(2)	(3)	(4)	(5)	(6)
Independent Variable	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)	Coef (st. error)
<i>constant</i>	.93 (.02)**	.94 (.03)**	.92 (.04)**	.92 (.04)**	.81 (.03)**	.91 (.03)**
<i>Dark Triad</i>	-.01 (.01)	-.01 (.01)	-.007 (.009)	---	---	---
<i>Dark Tetrad</i>	---	---	---	-.008 (.010)	---	---
<i>Light Triad</i>	---	---	---	---	.03 (.009)**	---
<i>NetLight</i>	---	---	---	---	---	.02 (.006)**
Age	---	-.0001 (.0003)	-.0001 (.0003)	-.0001 (.0002)	.0001 (.0003)	-.0001 (.0003)
Female (=1)	---	-.006 (.009)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)
Extraversion	---	---	.003 (.003)	.003 (.003)	.01 (.003)	.003 (.003)
Agreeable	---	---	.008 (.004)*	.008 (.004)*	.003 (.004)	.003 (.004)
Conscientious	---	---	-.0004 (.003)	-.001 (.003)	-.001 (.003)	-.001 (.003)
Emotional Stability	---	---	-.006 (.004)*	-.006 (.003)*	-.006 (.003)*	-.006 (.003)
Openness	---	---	-.001 (.003)	-.001 (.003)	-.002 (.003)	-.001 (.003)
Adjusted R-squared	.0001	-.0005	.0006	.0006	.0064	.0038
Observations	2,463	2,413	2,413	2,413	2,413	2,413

Notes: * $p < .05$, ** $p < .01$ for 1-tailed test of a preregistered directional hypothesis. Otherwise, 2-tailed tests p -values reported. The *Proportion Utilitarian Choices* variables takes on the value of 0, .25, .5, .75, or 1 and represents the proportion of utilitarian choices made across the 4 Trolley scenarios with a unique utilitarian choice (i.e., (1:1) and (5:5) Trolley scenario choices not considered).

TABLE 4: Hypothesis 4 tests—Psychopathy and Machiavellianism predictions on baseline mood

	Dependent Variable = <i>Positive Mood</i> (baseline)				Dependent Variable = <i>Negative Mood</i> (baseline)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Independent Variable	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)
<i>constant</i>	1.34 (.20)**	1.26 (.20)**	1.02 (.16)**	1.12 (.19)**	3.20 (.20)**	3.65 (.20)**	3.80 (.16)**	3.50 (.19)**
<i>Psychopathy</i>	-.02 (.04)	---	---	---	.29 (.04)**	---	---	---
Machiav.	---	.002 (.03)	---	---	---	.15 (.03)**	---	---
<i>Narcissism</i>	---	---	.14 (.04)**	---	---	---	.20 (.04)**	---
<i>Sadism</i>	---	---	---	.05 (.04)	---	---	---	.21 (.04)**
Age	.01 (.002)**	.01 (.002)**	.01 (.002)**	.01 (.002)**	-.01 (.002)**	-.01 (.002)**	-.01 (.002)**	-.01 (.002)**
Female (=1)	-.18 (.05)**	-.18 (.05)**	-.16 (.05)**	-.17 (.05)**	.001 (.05)	-.06 (.05)	-.05 (.05)	-.04 (.05)
Extraversion	.18 (.01)**	.18 (.01)**	.15 (.02)**	.17 (.01)**	-.03 (.01)*	-.02 (.01)	-.05 (.02)**	-.02 (.01)
Agreeable	.12 (.02)**	.12 (.02)**	.13 (.02)**	.13 (.02)**	-.03 (.02)	-.05 (.02)**	-.07 (.02)**	-.04 (.02)*
Conscientious	.13 (.02)**	.13 (.02)**	.13 (.02)**	.13 (.02)**	-.07 (.02)**	-.09 (.02)**	-.10 (.02)**	-.08 (.02)**
Emotional Stability	.14 (.02)**	.15 (.02)**	.14 (.02)**	.14 (.02)**	-.22 (.02)**	-.22 (.02)**	-.23 (.02)**	-.22 (.02)**
Openness	.03 (.02)	.03 (.02)	.02 (.02)	.03 (.02)	.01 (.02)	.02 (.02)	-.0002 (.02)	.02 (.02)
Adjusted R-squared	.2463	.2463	.2503	.2467	.1888	.1792	.1811	.1822
Observations	2,413	2,413	2,413	2,413	2,413	2,413	2,413	2,413

Notes: * $p < .05$, ** $p < .01$ for 1-tailed test of a preregistered directional hypothesis. Otherwise, 2-tailed tests p -values reported. *Positive Mood* and *Negative Mood* were constructed as an average of the mood reports across the positive and negative mood dimensions assessed, respectively (as was preregistered).

TABLE 5: Hypothesis 4 tests—Psychopathy and Machiavellianism predictions on mood immediately *after* Trolley dilemma task

	Dependent Variable = <i>Positive Mood</i> (<i>Post-Trolley Dilemma task</i>)				Dependent Variable = <i>Negative Mood</i> (<i>Post-Trolley Dilemma task</i>)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Independent Variable	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)	Coef (st. err)
<i>constant</i>	1.39 (.22)**	1.30 (.22)**	1.41 (.18)**	1.39 (.21)**	3.07 (.23)**	3.46 (.23)**	3.29 (.19)**	3.11 (.22)**
<i>Psychopathy</i>	.09 (.05)	---	---	---	.17 (.05)**	---	---	---
Machiav.	---	.09 (.04)*	---	---	---	.04 (.04)	---	---
<i>Narcissism</i>	---	---	.15 (.05)**	---	---	---	.19 (.05)**	---
<i>Sadism</i>	---	---	---	.09 (.05)*	---	---	---	.17 (.05)**
Age	.01 (.002)**	.01 (.002)**	.01 (.002)**	.01 (.002)**	-.001 (.002)	-.002 (.002)	-.001 (.002)	-.001 (.002)
Female (=1)	-.38 (.06)**	-.39 (.05)**	-.38 (.05)**	-.38 (.06)**	.14 (.06)*	.10 (.06)	.12 (.06)*	.13 (.06)*
Extraversion	.19 (.02)**	.19 (.02)**	.17 (.02)**	.19 (.02)**	-.01 (.02)	-.01 (.02)	-.04 (.02)*	-.02 (.02)
Agreeable	.11 (.02)**	.11 (.02)**	.10 (.02)**	.11 (.02)**	.01 (.02)	-.01 (.02)	-.003 (.02)	.01 (.02)
Conscientious	.13 (.02)**	.13 (.02)**	.12 (.02)**	.13 (.02)**	-.09 (.02)**	-.10 (.02)**	-.11 (.02)**	-.09 (.02)**
Emotional Stability	.13 (.02)**	.13 (.12)**	.12 (.02)**	.13 (.02)**	-.21 (.02)**	-.21 (.02)**	-.22 (.02)**	-.21 (.02)**
Openness	.01 (.02)	.01 (.02)	-.003 (.02)	.01 (.02)	.01 (.02)	.01 (.02)	-.003 (.02)	.01 (.02)
Adj R-squared	.1936	.1943	.1960	.1939	.1047	.1008	.1065	.1050
Observations	2,413	2,413	2,413	2,413	2,413	2,413	2,413	2,413

Notes: * $p < .05$, ** $p < .01$ for 1-tailed test of a preregistered directional hypothesis. Otherwise, 2-tailed tests p -values reported. *Positive Mood* and *Negative Mood* were constructed as an average of the mood reports across the positive and negative mood dimensions assessed, respectively (as was preregistered).

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