The Dark Triad and Moral Decision-Making at the Workplace

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Note in the sense of the Equal Treatment Act

For the sake of readability, this master thesis waives gender-specific differentiations. Corresponding terms apply in the sense of equal treatment for all genders.
Abstract

This study is based on two investigations, first, the development of two scales to measure two constructs regarding utilitarian moral decision-making at the workplace, i.e., self-gain and greater-good moral dilemmas, and second, an examination of the relationship between the Dark Triad (i.e., psychopathy, narcissism, Machiavellianism) and utilitarian decision-making at work. This second main investigation acts as a conceptual replication and extension of previous studies. Both investigations were pre-registered on the platform Open Science Framework. The pre-study’s EFA ($N = 103$) confirmed the two expected factors of utilitarianism. The main-study’s ($N = 254$) correlational analyses showed a relationship between psychopathy and utilitarianism at work, $r = .32, p < .001$, as well as with the subscales self-gain, $r = .26, p < .001$, and greater-good utilitarianism, $r = .29, p < .001$. Machiavellianism was found to be correlated with utilitarianism at work, $r = .31, p < .001$, as well as with the subscales self-gain, $r = .26, p < .001$, and greater-good utilitarianism, $r = .29, p < .001$. On an alpha level of $p < .01$, hierarchical regression analysis showed that psychopathy was the only significant predictor of self-gain utilitarianism, explaining around 7% of the variance when controlling for age, gender and hierarchy. For greater-good utilitarianism, psychopathy and Machiavellianism turned out to be significant predictors while controlling for the demographic variables and together accounted for 9% of the variance. Finally, the modern relevance of utilitarianism at work in relation to the Dark Triad is discussed by considering its implications, strengths and limitations, and directions for future research.

Keywords: Utilitarianism, Moral Decision-Making, Dark Triad, Personality.

Open Science Practices

This master thesis earned the Open Data and the Open Materials badges for making the data and material available at: https://osf.io/arxzp/ as well as the badge for pre-registration: https://osf.io/a53ps and https://osf.io/ef96j. A member of Open Science Scandinavia (Rickard Carlsson) has verified that the open science practices adhere to the defined standards.
List of Abbreviations

α  Cronbach’s alpha
β  regression coefficient; effect size
CFA  confirmatory factor analysis
CFI  comparative fit index
CI  confidence interval
CV  control variable
DIT  Defining Issues Test
DV  dependent variable
EFA  exploratory factor analysis
GG  greater-good
H  hypothesis
KMO  Kaiser-Meyer-Olkin measure of sampling adequacy
MMJT  Managerial Moral Judgment Test
M  mean
N  total sample size
n  size of the particular group of the sample
df  degrees of freedom
F  F-ratio; test statistic
p  p-value; probability value
r  Pearson’s correlation coefficient
R²  coefficient of determination
RMSEA  Root Mean Square Error of Approximation
SG  self-gain
SD  standard deviation
SD3  Short Dark Triad
t  t-test test statistic
TLI  Tucker-Lewis Index
ω  McDonald’s omega
χ²  Chi-square test statistic
Introduction

The dynamic nature of modern-day organizations means that everyone faces challenges and pressure at work. This environment puts CEO’s, managers, and employees in situations in which they have to make moral decisions quickly. Initially, one might think about situations such as bankruptcy, in which a decision about the future of many employees has to be made, however, even in less profound cases, moral decision-making has an essential impact on an organization. For instance, interpersonal behavior in relation to a moral decision might have a significant effect on organizational culture, employee satisfaction, and turnover. How do people act in a team, when they have five hardworking team members, but one who is currently weaker than the rest of the team? Do team members include the person nevertheless, or rather exclude the person to work quicker and more efficiently? Some employees might have a lower concern about the minority of people and decide rationally to exclude the weaker colleague and work efficiently towards the greater good of the team. That would be a utilitarian moral decision at the workplace, but which kind of personalities would decide in this more rational way? Who are those people that would rather exclude the minority?

In this context, links have been found between utilitarian decision-making and the Dark Triad of personality, i.e., psychopathy, narcissism, Machiavellianism (e.g., Karandikar, Kapoora, Fernandes, & Jonason, 2018). However, these studies have many limitations. First, they were based on a measurement of utilitarian decision-making by Greene, Sommerville, Nystrom, Darley, and Cohen (2001), in which the decision-maker does not have the opportunity to maximize the well-being of the greatest number of people in some of the scenarios. Further, they take two subscales, personal and impersonal moral decision-making, into account which were not developed accurately. Second, the studies and utilized measures do not relate to decisions within a work environment. Multiple studies have shown significant effects of social, cultural, economic, organizational factors (Ferrell & Gresham, 1985; Hunt & Vitell, 1986) and an individual’s situation (Trevino, 1986; Jones, 1991) on moral decisions, and thus necessitate a proper measure and investigation of the relationship between the Dark Triad and moral decision-making at the workplace.
Hence, the current study serves a dual purpose, first, developing two scales to measure two constructs regarding utilitarian moral decision-making at the workplace, i.e., self-gain and greater-good moral dilemmas, and second, examining the relationship between the Dark Triad (i.e., psychopathy, narcissism, Machiavellianism) and utilitarian decision-making at work. The second main investigation is, on the one hand, based on existing theory and, on the other hand, a conceptual replication and extension of previous studies. The pre-study and main study have been pre-registered on the platform Open Science Framework, a research and data management software for open science, to transparently share research process (Halm & Möhring, 2019a, 2019b).

**Theoretical Background**

In the course of giving a theoretical overview, the background of moral decision-making, including Kohlberg’s stages of moral development (1958) as well as reasoning, emotional and intuitional influences on moral decisions will be presented. Moreover, two main constructs of moral decision-making, i.e., utilitarianism and deontologism, are described, and further differentiations are discussed by aiming at a convincing argumentation for a new categorization, namely self-gain and greater-good utilitarianism. Finally, a literature overview of the Dark Triad in relation to moral decision-making at work is given. Its critique and research gap are pointed out in order to highlight the importance of this study.

**Moral Decision-Making**

*Reasoning, Emotion, and Intuition.*

In the field of moral judgment, experiments with dilemma scenarios have shown that both emotion and reason influence the moral decisions of mature adults (e.g., Haidt, 2001; Haidt, 2003; Shweder & Haidt, 1993; Wilson, 1993), however, in the past, moral psychology was primarily associated with reasoning (Kohlberg, 1969). Kohlberg’s Theory of Moral Development (1958) argues that ethical behavior is based on reasoning involving six stages of development. Each of these developmental steps increases the ability to use a broader range of capabilities and skills in terms of moral decision-making, and hence, responds adequately to moral dilemmas. Based on Kohlberg’s theory, research, including cross-sectional data, found that older individuals tend to use higher stages of moral reasoning in comparison to younger individuals. Longitudinal studies have further shown that human’s moral judgment
progressively improves from the first to the last stage (Bee, 1994; Colby, Kohlberg, Gibbs, & Lieberman, 1983).

Today, the literature on moral judgment emphasizes not only the role of reasoning but also intuitive and emotional processes in human decision-making and sociality. Haidt (2001) summarizes that “moral emotions such as sympathy may sometimes be inputs to the reasoning process, but moral emotions are not the direct causes of moral judgments” (p. 1024). In more detail, Damasio (1994) argue that emotions are, e.g., triggered by nature such as a fear of snakes (Damasio, 1994, as cited in Sutherland, 1994). According to Damasio, this physical reaction prevents one from considering a decision that could lead to harmful consequences. Therefore, emotions are an important part of affection, influencing reasoning, and finally moral judgment as shown in Figure 1. In particular, researchers (Rozin, Lowery, Imada, & Haidt, 1999) found that three feelings, namely contempt, anger, and disgust, are triggered through violations of three codes of ethics. Accordingly, anger is triggered by autonomy, i.e., violation of individual rights, contempt is released by breaches of local laws, and finally, disgust is triggered by the negligence of purity and sanctity.

Figure 1. The rationalist model of moral judgment (Haidt, 2001).

Those findings go along with the approach of social intuitionism. Followers of this approach (Nucci & Turiel, 1978; Turiel, 1983, 1998; Turiel, Killen, & Helwig, 1987) point out the importance of intuition in the process of moral decision-making, which they see as a kind of cognitional activity, but not as a kind of reasoning. Accordingly, people sometimes see moral truth out of intuition without the need for arguments, ratiocination, and reflection (Harrison, 1967). Moral intuitions come along with moral emotions, which are the first reaction within a situation and are followed immediately by moral judgments (Haidt, 2003; Kagan, 1984; Shweder & Haidt, 1993; Wilson, 1993).
Social intuitionists further propose that moral judgment is not only based on intuition but also the influence of other people. Thus, moral decision-making can be understood as an interpersonal process. When thinking about incest, people might imagine sister and brother having sexual intercourse and intuitively feel that this behavior is wrong. However, when one reflects on why this might have become their moral truth, the opinion might change. Is incest still morally wrong if siblings use contraceptives to prevent pregnancy? In comparison, why should people with genetic disabilities be ethically allowed to have sexual intercourse with proper use of contraceptives, but not siblings? Some of us might think differently about incest after the process of reasoning and the realization that our intuition makes our moral truth, led by social norms. Some, however, would continue arguing for the intuitional reaction because they trust their intuition more than ratiocination and reflection (Haidt, 2001). In this context, Haidt and Hersh (2001) found that participants were often speechless when they got confronted with moral truth created by society. They would pause, stutter, and express surprise at their inability to find supporting reasons. Nevertheless, they would not change their initial moral judgments (Haidt & Hersh, 2001). Those findings support the hypothesis that moral judgment is not only based on reasoning but that emotions and (social) intuition are involved as well.

When discussing which factors have an impact on moral judgment (Figure 2), scientists also studied the evaluation of consequences in a moral dilemma. Findings by Turiel, Hildebrandt, Wainryb’s, and Saltzstein (1991) showed that people associate ethical violations with harmful effects and thus rate the dilemma to be inappropriate. In the event that abortion, homosexuality, pornography, and/or incest were judged to be immoral, adverse consequences were associated with those actions. On the contrary, it was found that dilemmas without harmful fallouts were still rated as immoral and wrong in some cases (Haidt & Hersh, 2001; Haidt, Koller, & Dias, 1993). Those actions were, for example, cleaning one’s toilet with the national flag or eating a chicken carcass one has just used for masturbation (Haidt, 2001).

![Figure 2. The process of moral judgment based on Haidt (2001).]
In sum, one’s reasoning processes, personal emotions, and (social) intuition as well as weighing consequences influence the moral decision in eliciting situations.

**Utilitarianism and Deontologism.**

Taking the aspects mentioned above into account, researchers agree that two different processes contribute to decisions in moral dilemmas (Conway & Gawronski, 2012). The so-called dual-process theory of morality, initially proposed by Greene et al. (2001) and modified by Greene, Nystrom, Engell, Darley, and Cohen (2004), assumes that people are characterized in their thinking processes by two different cognitive subsystems that compete with each other. The intuitive and emotionally driven cognitive process results from the moral principle deontologism, and the other cognitive subsystem, which is slow and requires conscious deliberation and a higher cognitive load, results from the moral principle utilitarianism. The principle of deontologism assumes morality to be dependent on the intrinsic nature of the action regardless of its consequences. Conway and Gawronski (2012) summarize that in the deontological approach, the act of killing an innocent person simply is immoral (Kant, 1959). Contrarily, followers of the utilitarian principle state that killing one innocent person is acceptable to save a greater number of people (Mill, 1998). This approach of morality is determined by its consequences. Deontological judgments are rather driven by emotional processes. People with such a deontological inclination were found to be more empathic, perspective-taking, and religious. In comparison, utilitarian judgments are mostly driven by cognitive processes (Conway & Gawronski, 2012) and people with a utilitarian inclination tend to be more rational, controlled and have a colder as well as deliberative attitude (Djeriouat & Trémolière, 2014).

Even though researchers agree on those two principles of moral judgment, there have been discussions about their distinction and (in)dependence of each other. Some authors assume that both inclinations might be active at the same time (Greene, 2007). Hence, it was suggested to focus on a single process model by explaining moral judgment through the strength of a unique moral inclination instead of having two opposite ends of a single continuum (Kruglanski & Gigerenzer, 2011). Other researchers (e.g., Bartels & Pizarro, 2011) have argued that utilitarian judgments may result from minimizing the cause of harm rather than having moral concern for maximizing well-being. As a result, however, utilitarian judgments would merely reflect the absence of deontological inclinations instead of a moral preference that differs conceptually from deontological concerns (Conway & Gawronski, 2012). This critique, in
general, only indicates that the conditions that influence individuals’ judgments must continue to be investigated. The judgments themselves, which are influenced by emotions, (social) intuition, consequences and reasoning processes, however, should not be fused with the original moral inclinations underlying these judgments (Conway & Gawronski, 2012). Therefore, it can be assumed that the two moral principles of utilitarianism and deontologism exist while the underlying judgments might have a different structure.

When it comes to moral behavior, literature often tries to distinguish between right and wrong moral decisions, mostly based on the principle of utilitarianism and deontologism. Accordingly, maximizing good consequences seems to be the right choice. However, a lot of indignation has been caused. Opponents argue that utilitarianism conflicts with widespread, deeply ingrained moral beliefs and, thus, cannot be right. For instance, a court’s punishment of an innocent person to save a majority of lives seems to be wrong, even though they would maximize the well-being of the greater number of people. Further, the criticism is based on the argument that maximizing the good goes along with a type of morality that permits lying, promise-breaking, cheating, and violating the law whenever this behavior would lead to the maximization of the good. Such behavior lacks predictability and consistency, which is essential to create trust and social stability (Nathanson, 2019). In alignment with the utilitarian view, Singer (2002) argued that people are supposed to donate money to people in need to equalize property and wealth. Donations should be maintained until giving additional money would lead to more harm to the donor than good for the recipients. Utilitarianism would then be based on equal consideration of all peoples’ needs and interests; however, most individuals disagree with Singer’s opinion since people generally have a closer relationship to family, friends, and acquaintances, and thus a special moral duty to these individuals. For instance, a man would rather buy his wife an extra pair of shoes than donate the same amount of money to a stranger (Nathanson, 2019). The discussion about whether deontic or utilitarian moral decisions are right or wrong seems to be an ongoing conflict, and therefore, this study does not consider one of the principles to be morally superior.

**Utilitarianism: Further Differentiation.**

In the past, some authors have further differentiated between impersonal and personal moral judgment (e.g., Greene et al., 2001, 2004). Impersonal decisions are described to be mostly driven by reasoning, whereas personal judgments are rather driven by emotional responses and come along with higher tendencies for empathy and anger. Research has shown
that personal dilemmas and being in direct contact with the victim led to a higher activity of the emotion center of a person (Greene et al., 2001) and in turn, rather deontic decisions were made (Greene et al., 2004). The more people imagined the detail of the specific harm, the more they made deontic decisions (Bartels, 2008; Petrinovich & O’Neill, 1996). Petrinovich, O’Neill, & Jorgensen (1993) found supporting evidence which showed that participants made rather utilitarian moral decisions when they had no contact with the victim.

According to Greene et al. (2001), a personal moral dilemma meets three criteria. Firstly, the violation of moral rules would cause serious bodily harm. Secondly, a specific person or group would be affected by this harm, and third, the harm is “not the result of deflecting an existing threat onto a different party” (Greene et al., 2001, p. 2107). However, the methodical differentiation between the personal and impersonal moral dilemmas did not become clear in Greene et al.’s (2001) study. For instance, the coding criteria for personal dilemmas were also met in the impersonal dilemma Guarded Speedboat. The scenario follows all three criteria for personal dilemmas as aforementioned:

While on vacation on a remote island, you are fishing from a seaside dock. You observe a group of tourists board a small boat and set sail for a nearby island. Soon after their departure you hear over the radio that there is a violent storm brewing, a storm that is sure to intercept them. The only way that you can ensure their safety is to warn them by borrowing a nearby speedboat. The speedboat belongs to a miserly tycoon who has hired a fiercely loyal guard to make sure that no one uses his boat without permission. To get to the speedboat you will have to lie to the guard. Is it appropriate for you to lie to the guard in order to borrow the speedboat and warn the tourists about the storm (see Supplementary Material by Greene et al., 2001)?

Further, the differentiation between personal and impersonal dilemmas was based on only “two independent coders” (see Greene et al., 2001, p. 2106). Additionally, in some of the scenarios, utilitarianism and deontologism were not measured on a continuum, because the decision-maker did not have the opportunity to maximize the well-being of the greatest number of people. For instance, the scenario Lost Wallet allows sending a just found wallet “back to the owner without the cash, keeping the cash for yourself” (see Greene et al. 2001, Supplemental Material). Either one or the other person would have the cash at the end, but there is no option included which would lead to the good of a greater amount of people. This example
emphasizes the confounding effect between utilitarianism and selfishness in some of the original moral dilemmas.

Therefore, the present study does not relate to such personal and impersonal dilemmas. Instead, another division is taken up, namely self-gain and greater-good utilitarianism. In this understanding, greater-good utilitarian dilemmas are based on situations in which the decision-maker is not involved and only has to decide whether it is appropriate to harm one person in order to save many. Self-gain utilitarian dilemmas, on the other hand, are based on situations in which the decision-maker is involved and can further get a positive consequence out of the situation for themselves. Despite the involvement of the decision-maker, both types of dilemmas relate to utilitarianism, since the decision-maker has the opportunity to maximize the well-being of the greatest number of people in each dilemma.

This differentiation touches on the idea of psychological egoism, which states that each individual seeks and can only seek his or her own happiness and welfare (Glasgow, 1976). Although psychological egoism is the dominant view in human sciences and is widely used in people's everyday understandings, some phenomena seem to contradict this view, such as altruistic behavior. However, representatives of psychological egoism attempt to reduce these phenomena to egoism by providing evidence that altruistic action aiming at the welfare of others is ultimately motivated only to maintain or enhance one's own well-being. For example, McClintock (1971) argues for motive and principle egoism. Motive egoism describes that naturally everyone's motive is to maximize their own interests, and principle egoism is characterized by the natural desire to act on the principle to maximize these interests. That means that from the pursuit of the individual's well-being, principle egoism creates the need to maximize the greatest good of society as a whole in order to satisfy one's motive egoism of well-being ultimately. Exemplary, in case of war, one might build weapons to defend oneself and follow the motive egoism. For better safety, the person might further want to equip their neighbors with additional weapons to be stronger as a group and thereby follows the principle egoism in order to maximize the own safety and thus the motive egoism.

Some utilitarians falsely misused and mixed up the concept of utilitarianism and psychological egoism, even though they do not belong together. Based on this background, utilitarianism is divided into self-gain and greater-good moral dilemmas in this study. The greater-good scenarios represent the conventional view of utilitarianism as the decision to maximize the good or not. On the other hand, self-gain dilemmas take the greater-good
dilemmas a step further by measuring utilitarianism but also egoism. In other words, the scenarios are described by dilemmas in which one has the opportunity to follow the principle egoism to satisfy the motive egoism while still maximizing the greater-good.

**The Dark Triad and Moral Decision-Making**

CEO’s, managers, and employees have to make moral decisions at work on a regular basis. In this context, let us imagine a team of five hardworking members and one currently weaker team member. Would it be morally acceptable to include the weaker and slower colleague nevertheless, or rather exclude the person to work quicker and more efficiently? Some employees might be less concerned with the minority of people and decide rationally to exclude the weaker colleague and work efficiently towards the greater good of the team. Which kind of personalities would decide in this more rational way? Who are the people who would rather exclude the minority?

This behavior has been particularly found in people with a specific personality, namely the Dark Triad personality, which consists of psychopathy, Machiavellianism, and narcissism. Psychopathy is characterized by callousness, low empathy, impulsivity, and diminished concerns for morality (Paulhus & Williams, 2002). Machiavellianism comprises manipulative and deceptive tendencies as well as flexible moral beliefs (Djeriouat & Trémolière, 2014) while narcissists are characterized by self-enhancement, grandiosity and a superficial and socially desirable system of morality (Ames, Rose, & Anderson, 2006; Jonason, Duineveld & Middleton, 2015). In general, Dark Triad personalities are characterized by emotional instability (Arvan, 2013), empathy deficits (Jones & Paulhus, 2011) and lower concerns for morality (Djeriouat & Trémolière, 2014; Jonason, Strosser, Kroll, Duineveld, & Baruffi, 2015) and thus are found to be more rational than emotional in their decision-making (Bartels, 2008).

A few years ago, Djeriouat and Trémolière (2014) found a significant relationship between the Dark Triad personality and moral decision-making. Psychopathy and Machiavellianism, in particular, were strongly related to utilitarianism. Those findings go along with results by Bartels and Pizarro (2011), who found that subclinical psychopathy and Machiavellianism were associated with a higher utilitarian inclination. On first glance, there does not seem to be such a difference between psychopathy and Machiavellianism in regard to their effect on utilitarian decision-making, as both personalities were found to be emotionally cold, aggressive, and somewhat rational (Ali, Amorim, & Chamorro-Premuzic, 2009; Jones & Paulhus, 2011). Further, both traits seem to have additional characteristics which help them in
their manipulative behavior. For example, psychopathy predicts agreeableness and Machiavellianism was found to be correlated to loyal behavior within a group (Jonason & McCain, 2012). Agreeableness and loyalty can be understood as mating strategies, which Dark Triad personalities particularly show in exploitative short periods (Jonason & Webster, 2010) in which those mating strategies might be beneficial for them.

In regard to moral decision-making, psychopathy, in particular, was found to influence utilitarian decision-making (Djeriouat & Trémolière, 2014). This finding can be explained by clinical psychopaths’ reduced connectivity in the ventromedial prefrontal cortex (Motzkin, Newman, Kiehl, & Koenigs, 2011), which influences human emotional responses, decision-making, self-control and cognitive evaluation of morality. Individuals showed a higher inclination for utilitarianism in moral judgments in cases of damage in the ventromedial prefrontal cortex, as demonstrated in a study conducted by Koenigs et al. (2007). Bartels and Pizzaro’s (2011) findings support these results on a subclinical level of psychopathy. Accordingly, emotionally callous personalities, which especially psychopathy can be related to, are more prone to utilitarianism. However, previous findings linking psychopathy with utilitarianism coincided with selfishness and egoism due to methodological flaws. Therefore, the present study aims at examining whether subclinical psychopaths are merely prone to self-gain utilitarianism or decide for the good of the higher amount of people without fulfilling a personal need as well.

Not only psychopathy was found to be strongly related to utilitarianism but also Machiavellianism. This might be due to their manipulative and deceptive inclinations as well as their disregard for conventional morality (Christie & Geis, 1970). Due to their general deceitful behavior to reach their own goal, the relationship between Machiavellians and especially self-gain utilitarianism might be reasonable. Further, by reconsidering McClintock’s (1971) motive and principle egoism, Machiavellians might act on the principle of maximizing the greatest good for society as a whole in order to ultimately satisfy their motive egoism of well-being. Thus, Machiavellianism might not only be related to self-gain but also greater-good utilitarianism.

In sum, psychopathy and Machiavellianism are worth examining separately in relation to moral utilitarianism. The authors, thus, hypothesize that there is a relationship between psychopathy and self-gain and greater-good utilitarianism as well as Machiavellianism and self-gain and greater-good utilitarianism (Figure 3).
Lastly, narcissism belongs to the three traits of the Dark Triad; however, less support has shown that there is a relationship between utilitarianism and this trait. Even though there is empirical evidence for the relationship between narcissism and psychopathy (Gustafson & Ritzer, 1995), as well as Machiavellianism and narcissism (McHoskey, 1995), Djeriouat and Trémolière (2014) have not found a significant relationship between narcissism and utilitarian decision-making. That might be due to the dependence of narcissists on social desirability. Emmons (1987) found that narcissism correlated significantly with a measure of social desirability, indicating that narcissistic individuals experience fluctuations in their moods. Some subscales were further correlated to variability, however, some were not. Other findings support the hypothesis that narcissists answer inconsistently. In a study by Jonason, Strosser, Kroll, Duineveld, & Baruffi (2015), negative correlations between the narcissistic trait and moral judgments have been found. Other studies, however, showed non-significant correlations. Thus, Djeriouat and Trémolière (2014) proposed that narcissists’ moral decision-making is strongly influenced by social desirability, and thus, they respond in a way how they think other people would respond. Finally, this creates inconsistency in their answers. Therefore, this study is not going to include narcissism as a predictor of utilitarian decision-making.

In sum, the relationship between the Dark Triad traits and moral decision-making was found to be significant in various studies (e.g. Djeriouat and Trémolière, 2014; Karandikar et al., 2018), however, these studies were based on Greene et al.’s (2001) measurement of utilitarianism and other classical dilemmas (see Bartels & Pizarro, 2011). As described above, some of the scenarios do not adequately measure utilitarianism since there is no option to maximize the good for a majority of people. Therefore, previous findings related to

\begin{figure}
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\includegraphics[width=\textwidth]{figure3.png}
\caption{Assumed relationships between the Dark Triad traits and utilitarianism.}
\end{figure}
utilitarianism and the Dark Triad might be flawed. Hence, this study is to some extent a conceptual replication with an accurate measure of utilitarianism, and further, an extension of previous studies since the developed measurement of utilitarianism is based on work-related scenarios to explore the Dark Triad and moral decision-making at the workplace.

**Dark Triad Traits and Moral Decision-Making at the Workplace**

Moral decision-making has been studied in a work-related context, for instance, in regard to individual differences or how organizations and an individual’s situation influence the moral decisions of their employees. In this context, Trevino (1986) suggested a model which includes a stage of cognitive moral development before an ethical behavior is shown. This process is supposed to be moderated by individual moderators, i.e., ego strengths and locus of control, as well as situational moderators, i.e., immediate job context, organizational culture and characteristics of the work. Similarly, Jones (1991) suggested a model based on previous research. He indicated that social, cultural, economic, and organizational factors (Ferrell & Gresham, 1985; Hunt & Vitell, 1986) lead to the employee’s recognition of a moral issue, and finally cause the moral judgment.

Based on those and multiple other studies, it can be posited that an individual’s moral decision-making is influenced by different factors in the workplace and has to be differentiated to decision-making in non-work-related situations. Support is also given by research showing that individuals use different belief systems in different contexts (Higgins & McCann, 1984; Trevino, 1986). Nevertheless, studies which have been conducted on utilitarianism and deontologism are commonly based on non-workplace-related dilemmas. Hence, the question arises if those significant results are valid within a real working environment.

This background highlights the need to develop a proper measurement of utilitarianism at the workplace. Other measurements, such as the Defining Issues Test (DIT) of moral judgment development (Emler, Palmer-Canton, & St. James, 1998), focus on the participants’ political identities by restricting the construct of moral decision-making. Further, the DIT includes non-workplace-related dilemmas. Based on the DIT, Loviscky, Trevino, and Jacobs (2017) developed the so-called Managerial Moral Judgment Test (MMJT), which explicitly measures moral judgments of individuals facing the types of ethical situations typically encountered by supervisors. However, this measurement is not generally applicable for all employees and positions in an organization and mostly focuses on values at work instead of
measuring and exploring the construct of utilitarianism. Finally, the scale is only dichotomous and does not give participants the chance to specify their answer on a Likert scale.

Therefore, this study focuses firstly on the development of an appropriate measurement to assess utilitarian moral decision-making at the workplace. Secondly, the relationship between the relevant Dark Triad traits and self-gain as well as greater-good utilitarianism at the workplace will be examined, to ultimately reach a better understanding of moral decision-making at the workplace and to gain knowledge about the Dark Triad personality within an organizational environment.

Based on the theoretical background and previous studies, the following research question can be posed: Is there a positive relationship between the Dark Triad and utilitarianism at work? By examining this relationship, more specifically, the link between self-gain and greater-good utilitarianism at the workplace and the Dark Triad traits psychopathy and Machiavellianism, the following hypotheses were formulated:

Hypothesis 1. Psychopathy has a significant positive correlation with utilitarianism at work.
Hypothesis 1a. Psychopathy has a significant positive correlation with self-gain utilitarianism at work.
Hypothesis 1b. Psychopathy has a significant positive correlation with greater-good utilitarianism at work.
Hypothesis 2. Machiavellianism has a significant positive correlation with utilitarianism at work.
Hypothesis 2a. Machiavellianism has a significant positive correlation with self-gain utilitarianism at work.
Hypothesis 2b. Machiavellianism has a significant positive correlation with greater-good utilitarianism at work.

Pre-Study

This pre-study aimed at developing two scales to measure two constructs regarding utilitarian moral decision-making at the workplace, i.e., self-gain and greater-good moral dilemmas. The pre-study was pre-registered on the platform Open Science Framework, a research and data management software for open science, to transparently share the research process (Halm & Möhring, 2019a). Consequently, all the data and materials, including the
statistical code necessary to reproduce the analyses, are openly available on https://osf.io/arxzp/.

Method

In the following section, the methodological approach for the scale’s development will be explained. For this purpose, the sample and the procedure will be described first; then, the applied measures will be depicted. Finally, the description of the statistical methods of analyses will follow.

Participants and Procedure.

Based on suggested minimums for sample sizes (Faul, Erdfelder, Buchner, & Lang, 2009), 110 participants were recruited at Linnaeus University, Växjö, Sweden, through convenience sampling. Participants were informed that their participation was anonymous and voluntary, and they could quit at any time. The questionnaire was developed by taking ethical guidelines by Etikkommittén Sydost based on the Act (2003:460) concerning the Ethical Review of Research Involving Humans (Sveriges Riksdag, 2018) into account.

Every participant answered an English-based, paper-pencil questionnaire. In order to ensure a correct understanding of the scenarios, participants were asked to rate their English skills, with 94% (n = 103) of all respondents indicating that they had intermediate, advanced, or proficient English skills. However, 6% (n = 7) reported their mastery of English to be on a beginner or elementary level and consequently were removed from the data set. While this exclusion had not been pre-registered specifically, it was made clear that the questionnaire was in English, and therefore, the target group should have adequate English skills in order to understand the complex scenarios. Hence, the actual sample size consisted of N = 103 (53 females, 49 males, and one other). The age of participants ranged from 19 to 47 years (M = 24.52, SD = 5.46). Respondents were mostly from Scandinavia and other European countries (78%; n = 80). Other participants with nationalities from Africa, Asia, and America took part in the study.

Mostly students (75%; n = 77) answered the questionnaire, and 21% of all participants (n = 22) indicated to be mainly employed on wages or self-employed. Others claimed to be out of work. Most of the respondents (83%; n = 85) indicated that they work up to 30 hours per week, and 18% (n = 18) purported an average of working hours above 30 hours per week. Most of the participants had work experience of up to 10 years (87%; n = 90), another 10% (n = 10)
reported having up to 20 years, and 3% \((n = 3)\) indicated having more than 20 years of experience. In sum, the sample consisted mainly of students with some work experience, who were however not fully socialized in the professional world. The order of the dilemmas was randomized; hence, there were four different versions of the questionnaire.

**Measures.**

Utilitarian decision-making at work was supposed to be investigated in this pre-study. In the past, investigations about deontic and utilitarian judgments usually examined responses to moral scenarios designed to put one principle against the other (e.g., Bartels, 2008; Greene et al., 2001; Petrinovich & O’Neill, 1996).

**Moral Dilemmas.**

For the pre-study, moral dilemma scenarios from Greene et al.’s (2001) study were chosen. Four moral dilemmas (i.e., Footbridge, Standard Trolley, Crying Baby, and Lifeboat; \(M = 13.97, SD = 0.46\)) were used, which measure utilitarianism. Those dilemmas followed the same structure of either killing one person to save five (utilitarian response) or keep one alive and accepting the other five to die (deontic response). Thus, the utilitarian answer was, in any case, the opposite of the deontic one. Participants indicated (1 = very inappropriate, 7 = very appropriate) whether they judged the utilitarian option as appropriate or inappropriate at the end of every dilemma. Two of those classic moral dilemmas aimed at measuring self-gain and two greater-good utilitarianism as explained previously. The scenarios (see Appendix A) together reached a low internal consistency score, Cronbach’s \(\alpha = .56\) and McDonald’s \(\omega = .55\).

**Moral Dilemmas at the Workplace.**

Two scales, namely greater-good and self-gain moral dilemmas, with a total of 12 items, were developed to measure utilitarian decision-making at the workplace. These items were based on commonly known moral dilemmas, such as the standard trolley dilemma and tailored to workplace situations (see Appendix A). The constructed greater-good dilemmas are based on workplace situations in which the decision-maker is not involved and only has to decide whether it is appropriate to harm one person in order to save many. The constructed self-gain dilemmas, on the other hand, are based on workplace situations in which the decision-maker is involved and can further get a positive consequence out of the situation for him- or herself. Despite the involvement of the decision-maker, both types of dilemmas are constructed in order to measure utilitarianism since the decision-maker has the opportunity to maximize the well-
being of the greatest number of people. Each scale consisted of six items. The participants were asked to indicate on a 7-point Likert scale to what extent they perceive the proposed action as appropriate or inappropriate in this situation.

**Statistical Method of Analysis.**

An exploratory factor analysis (EFA) with 16 items was conducted to examine the extent to which utilitarianism (at work) can be measured by (work-related) moral dilemmas. A priori, four factors, namely, work-self-gain, work-greater-good, classic-self-gain, and classic-greater-good, were expected. However, the construct could also be explained by the two factors, self-gain and greater-good utilitarianism. In this case, the workplace would only have a minor influence on the construct. The factors were expected to be correlated. Thus, an oblique rotation oblimin was applied. Before EFA, all items were visually screened for normality. However, the data was found to be strongly right-skewed. Additionally, Shapiro-Wilk was significant ($p < .001$). Therefore, in addition to the conventional EFA in Jamovi, one was calculated based on the polychoric correlation using R and the psych package (Revelle, 2011). Based on the EFA’s as well as on item discrimination, items for each scale were selected, and the reliabilities of the final scales were examined. Further average scores, the mean of the items, were created and inspected visually.

**Results**

All 16 items correlated at least $r = .3$ with at least one other item, suggesting reasonable factorability (see Appendix B). The Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis, $KMO = .69$ (“mediocre,” according to Hutcheson & Sofroniou, 1999). All KMO values for individual items were higher than the acceptable limit of .5 (Field, 2009) and Bartlett’s Test of Sphericity was significant ($\chi^2 (120) = 324, p < .001$).

Given these overall indicators, factor analysis was considered suitable for all 16 items, and thus, minimum residual factor analysis was conducted on the 16 items with oblique rotation. An initial analysis was run to obtain eigenvalues for each factor in the data. Four factors had eigenvalues over Kaiser’s criterion of one, and in combination explained 37% of the variance. The scree plot was ambiguous and showed inflections that would justify retaining either one or five factors. Table 1 shows the factor loadings after rotation.
### Table 1

*Factor Loadings (16 items included)*

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG1_PropertyDamage</td>
<td></td>
<td></td>
<td></td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>SG2_SalaryCuts</td>
<td></td>
<td></td>
<td>.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG3_Donation</td>
<td></td>
<td>.32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SG4_ProductIdea</td>
<td></td>
<td></td>
<td></td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>SG5_Elevator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.66</td>
</tr>
<tr>
<td>SG6_BigProject</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.74</td>
</tr>
<tr>
<td>GG1_MediaBlame</td>
<td>.47</td>
<td></td>
<td>.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GG2_Blackmailer</td>
<td></td>
<td>.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GG3_SexualHarrassment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.45</td>
</tr>
<tr>
<td>GG4_PeanutVirus</td>
<td></td>
<td></td>
<td></td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>GG5_Bonuses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GG6_ProductKeeping</td>
<td>.49</td>
<td></td>
<td></td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>GGe_Footbridge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.61</td>
</tr>
<tr>
<td>GGe_Standard Trolley</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
<td>-.30</td>
</tr>
<tr>
<td>SGe_Lifeboat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.53</td>
</tr>
<tr>
<td>SGe_CryingBaby</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.55</td>
</tr>
</tbody>
</table>
EFA on polychoric correlation using R and the psych package (Revelle, 2011) supported the aforementioned findings.

For further scale analysis, items were selected accordingly. Four work-related items and all classical scenarios were excluded before another minimum residual factor analysis was conducted on the remaining eight items. The oblique rotation method was applied again. The KMO measure verified the sampling adequacy for the analysis, $KMO = .78$ (“good” according to Hutcheson & Sofroniou, 1999), and all KMO values for individual items were greater than .73. Two factors had eigenvalues over Kaiser’s criterion of one, and in combination explained 38% of the variance. The scree plot showed inflections that would justify retaining one factor (see Figure 3).

![Figure 3. Scree plot for EFA with oblique rotation method.](image)

Table 2 shows the factor loadings after rotation. The items clustering on the same factor suggest that factor 1 mainly represents self-gain scenarios; factor 2 represents greater-good dilemmas. An additional EFA with varimax rotation did not show any main differences. However, SG2_SalaryCuts (.36) and GG6_ProductKeeping (.30) load on to not only factor 1, but also on factor 2.
Table 2

*Factor Loadings (8 items included)*

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG1_PropertyDamage</td>
<td>.59</td>
<td></td>
</tr>
<tr>
<td>SG2_SalaryCuts</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>SG3_Donation</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>SG4_ProductIdea</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>GG1_MediaBlame</td>
<td></td>
<td>.51</td>
</tr>
<tr>
<td>GG2_Blackmailer</td>
<td></td>
<td>.89</td>
</tr>
<tr>
<td>GG4_PeanutVirus</td>
<td></td>
<td>.51</td>
</tr>
<tr>
<td>GG6_ProductKeeping</td>
<td></td>
<td>.60</td>
</tr>
</tbody>
</table>

Based on the EFA and item discrimination, final items for each scale were selected. The reliability of the final greater-good scale was Cronbach’s $\alpha = .71$, McDonald’s $\omega = .73$ and for the final self-gain scale Cronbach’s $\alpha = .58$, McDonald’s $\omega = .58$. All items together showed a reliability of Cronbach’s $\alpha = .75$, McDonald’s $\omega = .76$. All items showed a decent correlation with the total scale. Table 3 shows the means of the selected items for the greater-good scale $M = 2.51$, $SD = 1.30$ and for the self-gain scale $M = 2.94$, $SD = 1.24$.

Table 3

*Means and Standard Deviations of the Selected Items*

<table>
<thead>
<tr>
<th>Total scale</th>
<th>SG1</th>
<th>SG2</th>
<th>SG3</th>
<th>SG4</th>
<th>Total scale</th>
<th>GG1</th>
<th>GG2</th>
<th>GG4</th>
<th>GG6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M$</td>
<td>2.94</td>
<td>2.79</td>
<td>3.31</td>
<td>2.85</td>
<td>2.80</td>
<td>2.51</td>
<td>2.37</td>
<td>2.51</td>
<td>2.75</td>
</tr>
<tr>
<td>$SD$</td>
<td>1.24</td>
<td>1.84</td>
<td>1.86</td>
<td>1.83</td>
<td>1.96</td>
<td>1.30</td>
<td>1.69</td>
<td>1.57</td>
<td>2.04</td>
</tr>
</tbody>
</table>
Revision and Adjustments of Items

Based on the results of the pre-study, it was decided to further use four items measuring self-gain and four items measuring greater-good utilitarianism at work. Due to the strongly skewed distributions of items and an overall deviation from normality of the greater-good items, the scenarios were reformulated to smooth them out and make them more realistic within a work environment (see Appendix A). As a result, more participants were expected to rate the scenarios as appropriate, and consequently, relatively normally distributed data should be found.

Main-Study

The main study was also pre-registered on Open Science Framework (Halm & Möhring, 2019b). Additionally, all the data and materials, including the statistical code necessary to reproduce the analyses, are openly available on https://osf.io/arxzp/. After item adjustments were made, this main study further aimed to examine the two constructs. Thus, the items’ and scales’ reliability were reassessed, and the results were taken into account in regard to the research question. Even though it was not mentioned in the pre-registration, the hypotheses were examined regarding the specifications between self-gain and greater-good dilemmas. It was expected that psychopathy and Machiavellianism have a significantly positive correlation with utilitarianism at work (H1 and H2 as pre-registered), more specifically with self-gain (H1a and H2a) as well as greater-good (H1b and H2b) utilitarianism at work.

Method

A cross-sectional, correlational design was applied in order to examine the research question and the differences between self-gain and greater-good dilemmas in relation to the individual traits of the Dark Triad. In the following, the methodological approach for testing the hypotheses will be explained. For this purpose, the sample and the experimental procedure will be described first; then, the applied measures will be depicted. Finally, the description of the control variables and the statistical methods of analyses will follow.

Participants and Procedure.

Two hundred and sixty-five participants were recruited through personal email invitations, as well as various online portals like Xing, LinkedIn, PollPool, and other social media groups. As such, data was collected from a broad variety of people with the intention of
The Dark Triad and Moral Decision-Making at the Workplace 22

providing generalizable findings (Reips, 2002). Furthermore, participants were able to choose between an English and a German version of the questionnaire. Participants were considered to have responded to the survey once they ticked the consent box. It is worth mentioning that there were no restrictions concerning the age of the participants, the level of qualification, or their primary occupation. However, in hindsight, eleven participants who indicated that they did not have work experience of a minimum of one year had to be excluded. Although this exclusion has not been explicitly pre-registered, it was made clear that the present study aimed at examining utilitarianism at work and, therefore, the target group should have work experience.

The final sample consisted of 254 participants, of whom 93 (37%) indicated that they were male, and 161 (63%) were female. The average age of the subjects was 34 years ($SD = 14.04$, range: 19-73) including 89% ($n = 226$) participants from Scandinavia or other European countries and 11% ($n = 28$) respondents from Africa, America, and Asia. To reduce the risk of misinterpretations, participants who chose the English version were asked to rate their English fluency on a scale of 1-5. Since none of the targets rated themselves as a beginner or elementary, all participants could be included.

Twenty-five percent ($n = 63$) of subjects reported that they worked more than 40 hours per week. Forty percent ($n = 102$) said they were employed for wages, another 40% ($n = 101$) indicated that their main occupation was studying and 11% ($n = 28$) were self-employed. The frequencies of the participants’ total work experience (in years) and their hierarchical levels are displayed in Figure 4.

![Figure 4](image)

**Figure 4.** Frequencies of the participants’ total work experience (in years) and their hierarchical levels.
Measures.

Work-Related Moral Dilemmas.

The eight revised work-related moral dilemmas were used in order to measure utilitarianism at work. For the German version, items were translated and corrected by seven native speakers. As previously mentioned, the dilemmas include four self-gain and four greater-good dilemmas, and the participants were asked to indicate on a 7-point Likert scale to what extent they perceived the proposed action as appropriate or inappropriate in this situation. For instance, participants were asked to assume an employer’s perspective and then rate the appropriateness of using the product-idea of an old co-worker in order to save their start-up and, consequently, their job and those of their employees. The complete situations and dilemmas can be examined in Appendix A.

Short Dark Triad (SD3).

The Dark Triad personality traits were measured with the SD3, which is a 27-item questionnaire (Paulhus & Williams, 2002). For the German version, the adapted and translated version by Malesza, Ostaszewski, Büchner, and Kaczmarek (2017) was used. Psychopathy, Machiavellianism, and narcissism were assessed with nine self-report items each and participants were asked to state the extent to which they agreed or disagreed with these statements using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Examples of items are: “I like to get revenge on authorities” (psychopathy); “I like to use clever manipulation to get my way” (Machiavellianism); “People see me as a natural leader” (narcissism) (Paulhus & Williams, 2002). In total, five items are reverse scored. In previous studies, the three subscales showed modest, but acceptable reliabilities with Cronbach’s α around .68 to .80.

Control Variables.

Variables such as age, gender, and organizational hierarchy were included as control variables in the analyses since previous research has shown that they influence the relationship between the Dark Triad and utilitarianism. Figure 5 graphically displays the expected interrelations between the independent variable, the dependent variable, and the control variables.
In regard to gender, studies have shown that there are differences between sexes within the specific constructs of the Dark Triad (Jonason, Lyons, Bethell, & Ross, 2013). In general, men score higher on dark traits (Jonason, Zeigler-Hill, & Okan, 2017), leading to the assumption that men might make more utilitarian decisions than women. In line with that, Djeriouat and Trémolière (2014) could show that gender influences the relationship between the specific constructs and utilitarianism. Machiavellianism, for instance, correlated more strongly with utilitarianism within the male sample, whereas narcissism showed stronger correlations within the female sample (Djeriouat & Trémolière, 2014).

The decision to include hierarchy as a control variable in the analyses is based on previous research showing that the Dark Triad influences workplace behaviors in various ways. Judge and LePine (2007), for example, examined the bright sides of dark traits that lead to better performance in negotiations, preference for jobs with greater responsibility, as well as lower expressed stress and anxiety. In line with these findings, narcissistic tendencies have shown to be positively related to financial achievement and hierarchical position (Wille, De Fruyt, & De Clercq, 2013). While Machiavellianism was found to be beneficial for attaining leadership positions (Dahling, Whitaker, & Levy, 2009) due to core attributes such as the willingness to

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**Figure 5.** Expected interrelations between the independent variable, the dependent variable, and the control variables.
manipulate others (Spurk, Keller, & Hirschi, 2016), the construct of successful psychopathy appears to be controversial (Lilienfeld, 1998). On one side, psychopathy is the strongest negative predictor of job performance among the Dark Triad traits (Spain, Harms, & LeBreton, 2014), but then again, researchers have conjectured that traits like charisma and interpersonal dominance may help psychopaths to become, or at least present themselves as, effective leaders and managers (Babiak & Hare, 2006; Boddy, 2010; Wille, De Fruyt, & De Clercq, 2013). However, the causal link between the Dark Triad and hierarchy remains unclear. It could be the case that Machiavellians, psychopaths, or narcissists are prone to be successful. On the other hand, it could be the case, that these traits thrive in people who are in higher hierarchical positions and that people tend to become more callous and manipulative the more successful they are.

While the Dark Triad has been investigated in relation to leadership demands and organizational hierarchy, research on utilitarianism and hierarchy seems rather scarce. Therefore, it should be taken into consideration that the variable hierarchy might even mediate the relationship between the Dark Triad and utilitarianism at work. For instance, people scoring high on the Dark Triad might rise to higher positions, and these hierarchy levels are causing them to make more utilitarian decisions. On the other hand, it might be the case that hierarchy acts as a collider and creates a spurious relationship between the Dark Triad and utilitarianism. Since these relationships have not yet been investigated sufficiently and because causal links cannot be detected in a cross-sectional design, hierarchy was included as a covariate in the present study. However, the previous considerations should be taken into account while analyzing the results. Lastly, age was included as a control variable due to its coherence with hierarchy and work experience.

**Statistical Method of Analysis.**

Before examining the research question by computing correlations and conducting hierarchical regression analyses, a confirmatory factor analysis with the two subscales was performed in order to reaffirm the pre-study’s two-factor solution. The chi-square test for exact fit ($\chi^2(19) = 21.2, p = .32$), as well as the RMSEA = .02, 90% CI [0.00, 0.06], the Tucker-Lewis index (TLI) = .99 and the comparative fit index (CFI) = .99 indicated a good fit between the model and the observed data (Schreiber, Nora, Stage, Barlow, & King, 2006) and, thus, the following analyses could be conducted based on the two subscales of self-gain and greater-good dilemmas.
Initially, the scales’ reliabilities, distributions, and the discrimination power of items were assessed. As already mentioned, correlations were performed afterward in order to analyze the relationship between the Dark Triad traits and moral decision-making at the workplace. Additionally, a set of hierarchical regression analyses was performed to examine the individual contribution of each Dark Triad trait to the utilitarian variance while controlling for age, hierarchy, and gender. More specifically, two hierarchical regression models with four blocks each were performed. In the first model, the four self-gain dilemmas were introduced as the dependent variable (DV1). Firstly, the control variables were added to the regression. Since psychopathy was expected to explain the most variance, this independent variable was introduced next. Afterward, Machiavellianism was added, and lastly, narcissism was included in the regression. In the second model, the four greater-good dilemmas were introduced as the DV2. The order of the four blocks was equal to the first model, and since multiple variables were tested, both regressions were run with an alpha of .01.

Subsequently, an exploratory phase followed. In the course of this phase, an exploratory factor analysis with the eight remaining items was conducted with the purpose of finding a model that may be even more suitable for the data. Furthermore, the differences between greater-good and self-gain dilemmas in relation to the Dark Triad were examined, and possible underlying causes for the deviations of normality were explored.

**Results**

Descriptive statistics for Dark Triad traits and moral dilemmas split by gender are displayed in Table 4.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Utilitarianism</th>
<th>Self-Gain</th>
<th>Greater-Good</th>
<th>Psychopathy</th>
<th>Machiavell.</th>
<th>Narcissism</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Female</td>
<td>161</td>
<td>161</td>
<td>161</td>
<td>161</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>M</td>
<td>Female</td>
<td>18.2</td>
<td>10.3</td>
<td>7.88</td>
<td>2.07</td>
<td>2.97</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>19.6</td>
<td>11.2</td>
<td>8.42</td>
<td>2.28</td>
<td>3.17</td>
</tr>
<tr>
<td>SD</td>
<td>Female</td>
<td>6.84</td>
<td>4.18</td>
<td>3.75</td>
<td>0.47</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>8.58</td>
<td>4.84</td>
<td>4.79</td>
<td>0.58</td>
<td>0.52</td>
</tr>
</tbody>
</table>
Men scored higher than women on psychopathy and Machiavellianism, as well as on utilitarianism in general and self-gain and greater-good dilemmas. It is important to note, however, that the significance of these differences has not been examined. The means and standard deviations of the Dark Triad traits resemble the results found by Jones and Paulhus (2014).

**Normal Distribution and Item-Analysis.**

In the course of testing for normal distribution, the Shapiro-Wilk test, the analysis of skewness and kurtosis, as well as graphic analyzes, were applied. Several recommendations regarding certain parameters and values were considered. Furthermore, the respective weaknesses of the different normality tests were taken into account.

The non-significant value for narcissism \((p = .176)\) indicated no deviation from normality, whereas the variables utilitarianism \((p < .001)\), self-gain dilemmas \((p < .001)\), greater-good dilemmas \((p < .001)\), Machiavellianism \((p = .003)\), and psychopathy \((p < .001)\) were not normally distributed according to the Shapiro-Wilk test. Due to the rather large sample size of 254 participants, the significance criterion for skewness and kurtosis has been set to a threshold of 3.29 (Field, 2009, p. 139). Consequently, the values for the greater-good dilemmas and utilitarianism in total indicated significant skewness and kurtosis and the values for self-gain dilemmas pointed out significant skewness. The Dark Triad values, however, are below the threshold and therefore, suggested normal distributions. Despite the aforementioned results, the graphical analysis showed no evidence of substantial deviations from normality, except for the greater-good dilemmas. These findings were taken into consideration during the correlational analyses and the hierarchical regression analysis.

The Machiavellianism \((\alpha = .70, \omega = .70)\), psychopathy \((\alpha = .63, \omega = .67)\) and narcissism \((\alpha = .63, \omega = .65)\) subscales of the SD3 all had moderate reliabilities (Nunnally, 1978). While the greater-good dilemmas \((\alpha = .61, \omega = .62)\) also had a moderate reliability, Cronbach’s \(\alpha\) for the self-gain dilemmas was low \((\alpha = .51)\), as was McDonald’s \(\omega = .52\). Accordingly, the item-total correlations for the self-gain subscale were around \(r = .3\) or even below, indicating fairly low internal consistency (Nurosis, 1994). Despite that, the values of ‘Cronbach’s \(\alpha\) if item dropped’ indicated that none of the items would increase the reliability if they were deleted. The item-total correlations for the greater-good dilemmas were all above \(r = .3\), and none of the items would have increased the reliability if they were deleted. Taking all items together,
Cronbach’s α for the utilitarianism at work scale was .71 and McDonald’s ω was .72 and, thus, acceptable.

**Correlational Analysis.**

Figure 6 graphically illustrates the relationships between the Dark Triad traits and utilitarianism at work. The densities of the variables, as well as their correlation matrices, are displayed. When looking at the latter, it becomes clear that there are some outliers in the upper right quadrants.

![Correlation matrix with densities and statistics.](image)

*Figure 6. Correlation matrix with densities and statistics.*

Due to these outliers and the normality-deviations of the dilemmas, Spearman’s rho was performed additionally, and the values were compared to Pearson’s $r$. Despite most rank-correlations being smaller than the Pearson product-moment correlations, the directions and significance levels did not change. Thus, only Pearson’s $r$ coefficients will be presented and discussed in the following, whereas Spearman’s rank correlation coefficients are added to Appendix C. Table 5 further displays the intercorrelations among the studied variables.
Table 5

**Pearson Correlations Among Observed Variables**

<table>
<thead>
<tr>
<th></th>
<th>Utilitarianism</th>
<th>Self-Gain</th>
<th>Greater-Good</th>
<th>Psychopathy</th>
<th>Machiavell.</th>
<th>Narcissism</th>
<th>Age</th>
<th>Gender</th>
<th>Hierarchy</th>
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<td>0.321 ***</td>
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*Note. *p < .05, **p < .01, ***p < .001.*
As hypothesized, psychopathy had a significant positive correlation with utilitarianism (H1). More specifically, the trait was positively connected with both types of dilemmas, namely self-gain (H1a) and greater-good (H1b) dilemmas. In line with Hypothesis 2, Machiavellianism had a significant positive correlation with utilitarianism. Again, both types of dilemmas were positively associated with Machiavellianism (H2a and H2b). All Dark Triad traits correlated significantly positive with each other. Furthermore, age had a significant negative correlation with both types of utilitarianism, as well as with psychopathy. Gender was positively associated with psychopathy and Machiavellianism, whereas organizational hierarchy had a significant negative correlation with utilitarianism, as well as with self-gain and greater-good utilitarianism. Moreover, hierarchy had a significant positive correlation with age and gender, generally reflecting relationships that would be found in the population.

**Hierarchical Regression Analysis.**

To assess how much of the variation of utilitarianism at work is explained by the Dark Triad traits, hierarchical regression analyses were applied. Before conducting these regressions, assumptions of multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals were tested.

Descriptive statistics showed that predictors did not correlate highly with each other; thus, it could be assumed that there is no problem with multicollinearity. Additionally, Collinearity Diagnostics showed that VIF values were less than 10, and the average was not substantially greater than one, indicating that there is no cause for concern regarding multicollinearity (Field, 2009). The Durbin Watson in both models was around two (2.02 for self-gain and 1.92 for greater-good), so the assumption of uncorrelated residuals was met, too. Regarding Residuals Statistics, values of Cook’ distance, Mahalanobis distance as well as standardized residuals were taken into account. On this account, three outliers were identified and excluded for the analysis of the self-gain subscale, and three outliers were removed for the analysis of the greater-good subscale as well. Furthermore, it is worth mentioning that the assumptions of normality and homoscedasticity were not met for the greater-good dilemmas and, thus, the results were compared to an ordinal logistic regression. However, the results were not substantially different and, therefore, the results of the initially planned hierarchical regression are presented in Table 6.
### Table 6

**Hierarchical Regression Analysis of Self-Gain Utilitarianism**

<table>
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<tr>
<th>Step</th>
<th>β</th>
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<th>95% CI of β</th>
<th>R²</th>
<th>ΔR²</th>
<th>ΔF</th>
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<td>.09</td>
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*Note. ° p < .01. °° p < .001.*
The hierarchical multiple regression revealed that at stage one, gender and hierarchy contributed significantly to the regression model and accounted together with age for 7% of the variation in self-gain utilitarianism, \( F(3, 247) = 6.53, p < .000 \). Introducing psychopathy explained an additional 7% of the variation in self-gain utilitarianism, and this change in \( R^2 \) was significant, \( F(1, 246) = 18.60, p < .000 \). Adding Machiavellianism to the regression model explained an additional 2% of variation in self-gain utilitarianism, however, this change in \( R^2 \) was not significant, \( F(1, 245) = 5.97, p = .015 \). Finally, the addition of narcissism to the regression model explained only an additional 0.1% of the variation in self-gain utilitarianism and this change in \( R^2 \) was also not significant, \( F(1, 244) = .25, p = .616 \).

In summary, when controlling for age, gender, and hierarchy, psychopathy was the only significant predictor of self-gain utilitarianism, explaining around 7% of the variance. Even though, as mentioned previously, Machiavellianism had a significant positive correlation with self-gain utilitarianism, the individual contribution of the variable to the regression model was not significant when controlling for age, gender, and hierarchy. Together, the five independent variables accounted for 16% of the variance in self-gain utilitarianism.

When looking at greater-good utilitarianism, psychopathy, as well as Machiavellianism, turned out to be significant predictors while controlling for the demographic variables (Table 7). The hierarchical multiple regression revealed that at stage one, gender and hierarchy were significant predictors of greater-good utilitarianism and together with age accounted for 4% of the variation. However, all three control variables together did not contribute significantly to the regression model, \( F(3, 247) = 3.68, p = .013 \). Introducing psychopathy explained an additional 6% of variation in greater-good utilitarianism, and this change in \( R^2 \) was significant, \( F(1, 246) = 16.46, p < .000 \). Adding Machiavellianism to the regression model explained an additional 3% of the variation in greater-good utilitarianism, and this change in \( R^2 \) was also significant, \( F(1, 245) = 7.28, p = .007 \). Finally, the addition of narcissism to the regression model explained an additional 2% of the variation in greater-good utilitarianism; however, this change in \( R^2 \) was not significant, \( F(1, 244) = 6.1, p = .014 \).
### Table 7

**Hierarchical Regression Analysis of Greater-Good Utilitarianism**

<table>
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<tr>
<th></th>
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<th>R²</th>
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*Note.* ° p < .01. °° p < .001.
In line with the theoretical background and the hypotheses derived from it, psychopathy seems to be the most crucial predictor of utilitarianism at work when comparing the standardized beta values. However, the power of the present study was not sufficient to test whether the predictory differences between the Dark Triad traits are significant.

**Exploratory Analyses.**

In the course of exploring and examining possible underlying causes for the deviations of normality, results have shown that utilitarianism not only had a significant negative correlation with hierarchy, (see Table 5) but that the distributions of the dilemma-scales and items were associated with the participant’s work experience. Work experience had a significant negative correlation with self-gain utilitarianism, $r = -.17, p = .006$, and greater-good utilitarianism, $r = -.18, p = .005$. However, the relationship between work experience and utilitarianism should not be surprising, due to the significantly positive correlation between hierarchy and total work experience, $r = .65, p < .001$. When looking at the means of the individual items split by the total work experience, as well as the means of the subscales self-gain and greater-good, it is evident that the means are generally lower for participants that have worked more than 20 years compared to participants that have worked less than five years (see Tables 8 and 9). In other words, people with more work experience judged the suggested actions in the dilemmas as less appropriate.

<table>
<thead>
<tr>
<th>Work Experience in years</th>
<th>Self-Gain-Scale</th>
<th>Property Damage</th>
<th>Vacation Pay-Cuts</th>
<th>Donation</th>
<th>Product Idea</th>
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<td>3.32</td>
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<tr>
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Table 9

Means and Standard Deviations for Greater-Good Dilemmas split by Work Experience

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<th>Greater-Good-Scale</th>
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<th>Peanut Virus</th>
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<td>5-10</td>
<td>8.00</td>
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<td>1.79</td>
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<td>10-20</td>
<td>7.83</td>
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<tr>
<td>&gt; 20</td>
<td>6.88</td>
<td>1.32</td>
<td>1.44</td>
<td>2.07</td>
<td>2.05</td>
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</table>

Based on the aforementioned results regarding the changes of means, t-tests have been applied in order to test whether the differences between the participants with less than five years of work experience and the participants with more than 20 years of work experience in relation to self-gain and greater-good utilitarianism are statistically significant. Results showed that the mean difference of 1.90 between less than five years and more than 20 years of work experience was significant for the self-gain subscale with $t(250) = 2.65$, $p = .043$. Moreover, the mean difference of 1.91 between less than five years and more than 20 years of work experience was significant for the greater-good subscale with $t(250) = 2.84$, $p = .025$.

Despite the result of the CFA that the two-factor solution is appropriate and acceptable for the present data, another exploratory factor analysis was conducted in order to find a model that may suit the data even better. Results showed that all items cluster on one component, meaning that the data can also be explained by one factor, namely utilitarianism at work. As mentioned previously, Cronbach’s $\alpha$ for the utilitarianism at work scale was .71 and McDonald’s $\omega$ was .72 and, thus, higher than the individual reliabilities of the two subscales. However, the values of the model fit measures such as the RMSEA, the TLI, and the chi-square test were very similar to those of the CFA with two subscales. Therefore, both models seem to be an acceptable fit of the data. Thus, face validity and the purpose of the study should be the conclusive aspects when deciding to retain either one or two factors.
Discussion

In this section, the results will first be interpreted. The theoretical and practical implications will then be presented, and the strengths and limitations of the study will be considered. Lastly, future research proposals resulting from the findings of this study will be described.

Interpretation and Evaluation

The Newly Developed Scale.

Previous research has shown that people scoring high on psychopathy and Machiavellianism make more utilitarian decisions than people that score low on the Dark Triad (e.g., Djeriouat and Trémolière, 2014; Karandikar et al., 2018). However, these studies were based on classical moral dilemmas that, in some cases, did not measure utilitarianism but confounding constructs such as selfishness or egoism. Due to the essential characteristics of psychopathy and Machiavellianism, such as self-centeredness, low empathy, and manipulative tendencies, these results were not surprising. Therefore, in the present study, the aim was to examine whether the Dark Triad actually goes in hand with utilitarianism, or whether the previous results were mainly due to methodological flaws. Consequently, two scales to measure two constructs regarding utilitarian moral decision-making at the workplace were developed, i.e., self-gain and greater-good moral dilemmas. However, factor analyses yielded mixed results. It seems appropriate to either keep the two initially planned factors self-gain and greater-good or only one factor, which would be utilitarianism at work in general. There are arguments for both factor solutions and, thus, the purpose of the study should be the decisive factor. Nonetheless, the newly developed measurement takes research a step further since it overcomes previous methodological limitations and is, furthermore, tailored to the workplace without being limited to a specific group of employees or employers. However, the reliabilities, especially of the self-gain subscale, have room for improvement.

Additionally, the frequencies and distributions of the individual items and especially the greater-good subscale were not normally distributed but fairly skewed. One possible reason for the deviations of normality might be the nature of the dilemmas themselves. Whereas classical dilemmas, such as the standard-trolley problem, ask the decision-makers to put themselves in life-threatening situations in which there seems to be no other way out, the workplace-dilemmas are construed to be more realistic and, thus, less extreme. As described previously, models
The Dark Triad and Moral Decision-Making at the Workplace 37

regarding moral decision-making at the workplace suggest that ethical actions are preceded by a cognitive level in which the decision-maker recognizes the moral issue (Trevino, 1986; Jones, 1991). The process is influenced by moral intensity and individual moderators, but also by situational factors such as immediate job context, organizational culture, and characteristics of the workplace. In accordance with these models, the results of the present study provide support for the supposition that individuals use different belief systems in different contexts and that moral decision-making at the workplace, thus, has to be differentiated from decision-making in non-work-related situations. The organizational culture and the characteristics of the work, as well as the relationships to colleagues, presumably have shaped the employers and employees and, thus, also their moral judgments. Furthermore, participants might have already been in similar situations at the workplace or might simply approach the dilemmas with the mindset that they would act completely different in these situations (for example talk to their supervisor or call the police) and therefore consider the proposed actions as absolutely inappropriate.

Even though Greene’s distinction between personal and impersonal moral dilemmas was not comprehensible, the approach itself - to differentiate between dilemmas in which people are emotionally involved and in which they are not - does not seem to be farfetched. While most people decided to help the higher amount of people in the standard trolley dilemma, the majority of people rejected the utilitarian response when presented with Thomson’s footbridge dilemma (Mikhail, 2007). These findings support the present result that people tend to reject the utilitarian response when they are asked to think about situations at their workplace, involving their co-workers and colleagues.

Although the items were revised and adjusted after the pre-study so as to reduce extremism, the distributions of the main-study were even more right-skewed. That might be due to the different characteristics of the samples in pre- and main-study. As results showed, there was a negative association between work experience and utilitarianism; in other words, people with more work experience judged the suggested actions in the dilemmas as less appropriate. Therefore, the deviations of normality might be due to the level of work experience in the sample, since the pre-study sample mainly consisted of students, whereas the main-study sample included mostly employees and self-employed participants. Participants with more than 20 years of work experience have been influenced by organizations and relationships with colleagues way more than participants that just started to work. Accordingly, experienced workers might be more committed, more empathic and more perspective-taking and, thus, make
The Dark Triad and Moral Decision-Making at the Workplace

more deontic decisions, whereas novices might approach the dilemmas more rationally and abstractly due to the lack of experience subsequently leading to more utilitarian decisions (Conway & Gawronski, 2012). Consequently, managers, employers or researchers wanting to use the newly developed measurement of utilitarianism at work, whether with two subscales or not, will have to take their sample and the participants’ work-experience into account when analyzing and interpreting the results.

The Dark Triad and Utilitarianism at Work.

In regard to the second main purpose of the present study, examining the relationship between the Dark Triad and utilitarianism at work, the results support the hypotheses, that psychopathy and Machiavellianism have a significant positive correlation with self-gain as well as greater-good utilitarianism at work. The results of the hierarchical regressions corroborate these findings in the sense that psychopathy turned out to be a significant predictor of self-gain and greater-good utilitarianism and Machiavellianism turned out to be a significant predictor of greater-good utilitarianism when controlling for age, gender and hierarchy. Consequently, it can be deduced that psychopathy is the most important predictor of utilitarianism, as predicted. These results are similar to previous findings by Karandikar and colleagues (2018) and Djeriouat and Trémolière (2014). The latter could show that among the Dark Triad traits, psychopathy was the only independent predictor of utilitarianism when controlling for demographic variables. Based on the results of the present study and due to the differentiation between self-gain and greater-good dilemmas, it can be said that people scoring high on psychopathy and Machiavellianism tend to make more utilitarian decisions, even when they are not involved and cannot benefit from the situation. These findings can be explained by the underlying characteristics of the Dark Triad and the underlying characteristics of utilitarianism: both constructs are associated with rationality and colder, deliberative attitudes (Conway & Gawronski, 2012). However, the results raise the question how it is possible that morally undesirable traits such as psychopathy and Machiavellianism go along with utilitarianism, an ethical theory that is widely accepted as representing optimal morality (e.g., Baron & Ritov, 2009). Bartels and Pizarro (2011) have argued, that

the widely adopted use of sacrificial dilemmas in the study of moral judgment fails to distinguish between people who are motivated to endorse utilitarian moral choices because of underlying emotional deficits (such as those captured by our measures of psychopathy and Machiavellianism) and those who endorse it out of genuine concern
for the welfare of others and a considered belief that utilitarianism is the optimal way of achieving the goals of morality (p. 4).

The observed emotional deficits in psychopaths have also been found in patients with damage to the ventromedial prefrontal cortex (Saver & Damasio, 1991). Accordingly, these patients showed similar patterns of answering to sacrificial dilemmas, that is endorsing utilitarian solutions (Koenigs et al., 2007). Of course, one could argue that being able to detach from emotions might facilitate acting for the greater good even under circumstances that would presumably be difficult and debilitating for most people, such as in the situations of moral dilemmas (Bartels & Pizarro, 2011). In that case, what matters would be the end and not the means. But aren’t emotions part of what makes us human? These considerations are also in line with Djeriouat and Trémolière’s (2014) argumentation that the effect of psychopathy and Machiavellianism on moral decision-making are not based on the approval of utilitarianism as a moral principle, but rather the “indifference toward the relevance of basic moral duties” (p. 15). Simplified, that would mean that high scorers on the Dark Triad are not concerned with the welfare of others, but rather have no problem with harming the individual. That does not mean that these people necessarily judge the proposed actions in the dilemmas as appropriate; it simply means that they judge them as less inappropriate than people scoring low on psychopathy and Machiavellianism.

Lastly, as predicted, narcissism did not turn out to be a significant predictor of utilitarianism at work. However, it should be mentioned that the hierarchical regression results for narcissism were noticeably different between self-gain utilitarianism and greater-good utilitarianism. Whereas narcissism was far from being a significant predictor when looking at self-gain utilitarianism ($p = .616$), the variable approached significance ($p = .014$) when looking at greater-good utilitarianism. Even though the present study did not have sufficient power to say whether these differences are significant, they seem noteworthy. One possible explanation might be the previously explained assumption that narcissists tend to have a superficial and socially desirable system of morality (Ames, Rose, & Anderson, 2006; Jonason et al., 2015) and as such tend to answer in a manner that they think other people might favor. Presumably, these systems are specifically active in situations where the decision-maker might be seen as selfish, hence, in self-gain dilemmas.
In what ways can researchers, organizations, and managers benefit from these findings and insights in the future? The following sections are devoted to the theoretical and practical meaning and applications of the data.

Implications

Throughout the course of the present study, a measurement has been developed that overcomes methodological flaws of previous instruments. The greater-good subscale, in particular, makes significant contributions to research since the dilemmas measure utilitarianism in its purest form and the scale had acceptable reliabilities. Additionally, self-gain moral dilemmas also measure utilitarianism. Even though the decision-maker can benefit in these fictional situations, the items do not solely measure other constructs like selfishness, egoism or even criminal behavior as it was the case in some classic moral dilemmas (see Lost Wallet, Taxes or Hired Rapist; Supplementary Material by Greene et al. 2001). Accordingly, the relationships between the Dark Triad traits and utilitarianism could be examined in a methodologically proper way. Furthermore, the dilemmas are tailored to the workplace without restricting any positions in an organization enabling researchers to examine moral decision-making at the workplace in a suitable manner.

Even though the present study could show that the Dark Triad traits psychopathy and Machiavellianism coincide with decisions that maximize the wellbeing of the greatest number of people, it is important to consider that these decisions may derive from a very different underlying rationale than utilitarian decisions made by non-psychopaths and non-Machiavellians. That is, they might have no problem with harming an individual person to reach a goal, to work more efficiently or to satisfy their needs for power and money. Regarding practical implications for the workplace, these considerations should be taken into account. Instead of supporting weaker co-workers, people scoring high on the Dark Triad might exclude them. At first sight, being efficient might seem like a desirable goal at the workplace; however, the end might not always justify the means. In the long run, the Dark Triad was found to adversely affect numerous workplace outcomes (Brunell et al., 2008; Penney & Spector, 2002). Jonason, Slomski and Partyka (2012) compiled that, for instance, corporate psychopathy has negative effects on productivity (Boddy, 2010), Machiavellianism has been linked to decremented commitments on an organizational, supervisor and team level (Zettler, Friedrich, & Hilbig, 2011) and narcissism has been associated with unethical behavior in CEO’s (Galperin, Bennett, & Aquino, 2010). Therefore, the relationship between the Dark Triad and
utilitarianism should be interpreted with caution and recruiters should not make it their goal to hire psychopaths or Machiavellians just because these traits go along with utilitarian decisions.

Furthermore, organizations might consider implementing training, workshops, and feedback-tools in order to raise general awareness for the Dark Triad traits, their typical characteristics, and behaviors. Employees should be educated about the hazards of working with high scorers on the Dark Triad, how to identify them and how to deal with situations in which they are personally confronted with manipulative or counterproductive behavior or situations in which they notice other colleagues being exploited or excluded. Accordingly, the organizational culture can be protected from the adverse influences of Dark Triad personalities.

**Strengths and Limitations**

Firstly, the sample size and diversity in terms of age and educational qualifications should be emphasized. This suggests that the findings of this study are generalizable. Additionally, the minimum requirement to have worked for at least one year made it possible to ensure that the data provided by the participants was based on actual experience and further increases the external validity of the results in comparison to studies conducted in laboratories or with mere student samples (see Scandura & Williams, 2000). Another strength of the study is the collection of subjects from various countries and nationalities. That further enlarges the external validity as well as the cultural generalizability. The latter is only limited due to the fact that most participants were from industrial countries. The studies’ transparency is guaranteed due to the pre-registration of both studies on the Open-Science-Framework, the comprehensible instructions, and the possibility to receive the results afterward. The test-quality criteria of economy and reasonableness are met since the survey could be finished in 10 to 15 minutes. Although it is not possible to standardize the setting of a study when using an online-questionnaire, online studies have proven themselves to be appropriate in the past (Hennig-Thurau & Dallwitz-Wegner, 2002). Personal influences of interviewers, i.e., experimenter effects, can be prevented due to the automated surveys (Wood, Nosko, Desmarais, Ross, & Irvine, 2006).

Scenario-based research using ethical dilemmas is accompanied by many challenges. However, the present study tried to overcome these limitations by establishing a strong theoretical foundation, developing scenarios that contain fairly realistic business dilemmas and including participants with a variety of different backgrounds as well as taking social desirability biases into account (Weber, 1992). In line with the questionability of social
desirability biases, another possible limitation of the present study should be mentioned, i.e., the self-report measures. The study is methodologically limited inasmuch as it makes use of only one data source, the participant itself. Podsakoff, MacKenzie, Lee, and Podsakoff (2003) postulate that the use of only one source is generally considered a risk factor for common-source bias. This systematic measurement error can occur when all constructs of interest come from the same person. Moreover, the validity of the responses might be impaired due to the deceitful tendencies of individuals with psychopathic personality traits (Hare, 2003). Especially the possibility of self-serving biases should be taken into consideration since people scoring high on the Dark Triad are notorious for perceiving themselves different than other people would (Cleckley, 1976). Nevertheless, a study revealed that the difference between other-rated and self-rated psychopathy scores is marginal (Miller, Jones & Lynam 2011).

**Directions for Future Research**

Suggestions for future research can be derived based on the aforementioned limitations. The further improvement of the items developed in the current study, and thus, the increase of reliabilities should be one of the main goals so as to validate the newly constructed measurement of utilitarianism at work.

Future research should also examine the underlying causes of skewed distributions. Even though the present study aimed at explaining these deviations from normality by pointing out the fundamental differences between life-threatening scenarios and real-life situations at the workplace, these theoretical foundations should be further expanded. Some possible factors that might be interesting to explore are the influences of the organizational culture, commitment, as well as team spirits and counterproductive work behaviors.

Furthermore, it should be considered that the traditional dilemma methodology endorses either the utilitarian principle or the deontological one, and thereby confounds selecting one option with rejecting the other (Conway & Gawronski, 2012). Future research should focus on overcoming these methodological problems. Accordingly, the specific type of emotional deficits that might cause people scoring high on psychopathy and Machiavellianism to act in a rather utilitarian manner should be further explored as well (Cima, Tonnaer, & Hauser, 2010). Presumably, the previously mentioned differences between moral inclinations and actual moral judgments could be examined with the aid of real-life decision-making experiments. However, these experiments might be complicated to tackle ethically.
Moreover, the present findings urge for the further investigation of differences between the individual predictors, i.e., psychopathy, Machiavellianism and narcissism, and the differences between self-gain and greater-good moral dilemmas to determine significance. A G*Power (Faul et al., 2009) analysis indicated that a sample size of more than 2500 participants would be needed to detect significant effects, which was in the case of the current study unrealistic given its scope.

Lastly, the possible mediating effects of hierarchy on the relationship between the Dark Triad and utilitarianism should be examined in the future. Even though the present results support the assumption that hierarchy acts as a covariate, the cross-sectional design of the study does not allow for the drawing of any conclusions about the causal directions of the relationships between hierarchy and utilitarianism or hierarchy and the Dark Triad. Thus, future studies could apply a longitudinal design to explore these associations more explicitly.

Conclusion

In conclusion, the present study not only developed a measurement that is tailored to the workplace and differentiates between self-gain and greater-good utilitarianism but also contributed to research by examining the relationship between the Dark Triad and utilitarian decision-making at work. The results of correlational analyses, as well as hierarchical regressions, supported the hypotheses regarding the positive relationships between utilitarianism and psychopathy as well as Machiavellianism. Additionally, the influences of the demographic variables gender, age, and hierarchy were evaluated.

What type of people would decide to harm one colleague in order to save many? Through the discussion of implications and the modern relevance of the aforementioned relationships, it became clear that even though Dark Triad traits coincide with decisions that seem to maximize the well-being of the majority of employees and employers, the recruitment of people scoring high on psychopathy or Machiavellianism should not be promoted. After all, these individuals aim to meet their goals regardless of its cost to others. This is the case even if that means excluding weaker co-workers, bullying and exploiting other employees and subordinates or manipulating managers in order to climb up the corporate ladder to fulfill their needs of money and power. Nonetheless, the dynamic nature of modern-day organizations means that everyone faces challenges and pressure at work. Sometimes, that means moral decisions have to be made. How would you decide in the following scenario?
A blackmailer warns you that she will publish personal data about your colleagues if you don’t release the payroll of one specific co-worker. You don’t have to expect any consequences either way, but you have the choice between publishing the financial data of one of your co-workers or risking the privacy of your five colleagues. Is it appropriate for you to release sensitive data of one specific co-worker in order to keep personal data of your five colleagues secret?
References


The Dark Triad and Moral Decision-Making at the Workplace


Appendix A

Questionnaire Pre-study

Classical Self-Gain Dilemmas (see Supplementary Material by Greene et al., 2001)

Lifeboat: You are on a cruise ship when there is a fire on board, and the ship has to be abandoned. The lifeboats are carrying many more people than they were designed to carry. The lifeboat you're in is sitting dangerously low in the water - a few inches lower and it will sink. The sea starts to get rough, and the boat begins to fill with water. If nothing is done, it will sink before the rescue boats arrive and everyone on board will die. However, there is an injured person who will not survive in any case. If you throw that person overboard, the boat will stay afloat, and the remaining passengers will be saved. Is it appropriate for you to throw this person overboard in order to save the lives of the remaining passengers?

Crying Baby: Enemy soldiers have taken over your village. They have orders to kill all remaining civilians. You and some of your townspeople have sought refuge in the cellar of a large house. Outside you hear the voices of soldiers who have come to search the house for valuables. Your baby begins to cry loudly. You cover his mouth to block the sound. If you remove your hand from his mouth his crying will summon the attention of the soldiers who will kill you, your child, and the others hiding out in the cellar. To save yourself and the others you must smother your child to death. Is it appropriate for you to smother your child in order to save yourself and the other townspeople?

Classical Greater-Good Dilemmas

Footbridge: A runaway trolley is heading down the tracks toward five workmen who will be killed if the trolley proceeds on its present course. You are on a footbridge over the tracks, in between the approaching trolley and the five workmen. Next to you on this footbridge is a stranger who happens to be very large. The only way to save the lives of the five workmen is to push this stranger off the bridge and onto the tracks below where his large body will stop the trolley. The stranger will die if you do this, but the five workmen will be saved. Is it appropriate for you to push the stranger on to the tracks in order to save the five workmen?

Standard Trolley: You are at the wheel of a runaway trolley quickly approaching a fork in the tracks. On the tracks extending to the left is a group of five railway workmen. On the tracks extending to the right is a single railway workman. If you do nothing the trolley will proceed to the left, causing the deaths of the five workmen. The only way to avoid the deaths of these workmen is to hit a switch on your dashboard that will cause the trolley to proceed to the right, causing the death of the single workman. Is it appropriate for you to hit the switch in order to avoid the deaths of the five workmen?
Workplace-Related Self-Gain Dilemmas

**Big Project:** Your team is working on a big, stressful project at the moment and needs every single member of the workforce in order to complete it. One of your co-workers calls in sick often even though she has important responsibilities within the project. Today she pretends to be sick again, however, you know she is in Disneyland. You are worried that her ruthless behavior is going to make the whole team look bad. In that case, you and your team would probably have to deal with salary cuts. Is it appropriate to call her out and presumably get her fired in order to get a new and more reliable team member, who will effectively enable your team to finish the project in time?

**Salary-Cuts:** You learn from a friend in the Human Resources department that the company you are working for has financial problems and will have to save money in the future. Regarding your team, either one employee will be laid off, or all of your team members will be affected by salary cuts. You know that there is an option for people to retire early so you could try to go behind an older co-worker’s back and coerce her to retire already. That way, you and the rest of your team would be unaffected by the salary cuts. Is it appropriate for you to persuade one person and talk her into early retirement in order to save the salaries of yourself and the other 5 team members?

**Property-Damage:** You are in a team of 4 who just ignored the safety regulations at your workplace due to convenience and time-constraints. Consequently, company property of high value has been damaged. A business that violates safety regulations can be punished by the federal government and your boss is therefore very angry about it. He announces that the person responsible will be fired. You have the chance to call out one person in your team in order to save yourself and the other 2 people. Otherwise, all four of you will be fired. Is it appropriate for you to call out the one person in your team in order to save yourself and the other team members?

**Donation:** You have worked for 10 years in the same successful company, and your team has organized the yearly summer party every year. This year, an anonymous customer donates money for this event, and you and your team members find the envelope with the money in your office. Financially, your company is doing very well, you, however, have been hit by hard times recently and could use some extra money. Paying the money into the company’s account won’t result in benefits for the employees, only the CEO will benefit. Therefore, you suggest paying half of the amount into the company’s account and splitting the other half among the team. No one would find out about it, and your team agrees. Is it appropriate for your team to keep half of the money?

**Product-Idea:** You are a new employee in an organization. The organization is almost bankrupt. Your boss asks you to betray the secrets of your old company by telling her about one of their latest product ideas. You know that one of your co-workers from your old organization had a great product idea lately. Although you didn’t like your old workplace, you would harm your old co-worker by stealing his idea and taking away his credits. Is it appropriate to reveal the product idea in order to save your new organization and, thus, your job and career?
Elevator: You are a very ambitious employee, aiming for a promotion for your middle manager’s position. On your way to an important meeting, in which your promotion or the maintenance of the current middle manager will be decided by the CEO, you hear this manager shouting for help in the elevator. Apparently, the elevator is stuck. You know that many employees are unhappy with the current manager because he tends to intimidate and manipulate people. Is it appropriate for you to continue walking to the meeting room and not help him in order to have a better chance to get the promotion?

Workplace-Related Greater-Good Dilemmas

Blackmailer: A blackmailer warns you that she will publish sensitive personal data about your team members if you don’t release the confidential data of one specific co-worker. Therefore, you have the choice between publishing data of one of your co-workers, causing harm to his life, or risk the privacy of your 5 team members and harm their lives. Is it appropriate for you to release sensitive data of one specific co-worker in order to keep personal data of your five team members secret?

Bonuses: You are working in the Human Resources department of a sales company, and you are responsible for giving the yearly bonuses. One of the sales people appears to receive a significant amount of the bonuses this year. However, you know that he got the sales dishonestly to overcome his financial problems at home. You have the option to equally distribute the bonuses out to the whole team, rather than give the majority of the bonus to this one person. You know that the dishonest salesperson wouldn’t speak out because he knows about his dishonesty himself and also because he needs the money to pay his health care bills. Is it appropriate for you to shift the bonuses from this one salesperson in order to give the rest of the sales people equal bonuses?

Peanut-Virus: You overhear one of your co-workers fussing after being fired but still having to work two days. She plans to upload a serious virus using the company’s server. She plans to harm all managers and her direct supervisors, and you know her well enough to know that she is telling the truth. You happen to know that she has a very strong allergy to peanuts. If she eats even one, she will go into convulsions and have to be hospitalized for at least forty-eight hours. That way, she would no longer have the opportunity to upload the virus. Is it appropriate for you to cause this woman to have a serious allergy attack in order to prevent her from spreading the virus?

Media-Blame: A team consisting of 5 employees is going to be unjustly blamed for a great failure in public. You are the only person who could protect the 5 guiltless employees. The press contacts you and asks for an anonymous statement. You could avoid the verbal attack the 5 employees have to face by redirecting the blame to another innocent co-worker, causing the end of his career. Is it appropriate for you to call out the one co-worker in the interview in order to keep the team’s reputation and career?
Sexual Harassment: It happens that you know of a manager who sexually harasses women on a daily basis. The women are too scared to testify against the manager. Therefore, there is no possibility of imprisoning him for these crimes. However, you could manipulate data to accuse him of tax evasion to get him taken into custody. Is it appropriate for you to manipulate the data in order to imprison him and protect various women from sexual harassment?

Product-Keeping: You are a middle manager working for a big sales company. You know that many of your employees keep products for themselves that have been taken from the assortment. Personally, you don’t have a problem with that. Your CEO, however, has recently noticed that products are missing and is suspicious now. If he finds out the whole team is involved, he will probably implement many rules in order to punish the employees. You would not be affected by any of that, but your employees would suffer. However, you have the possibility to blame one employee for taking the products. That way, the CEO would send a warning letter to that specific employee but won’t investigate any further. Is it appropriate for you to blame one specific employee and get him into trouble in order to save the other employees from being punished?

Questionnaire Main-study

Improved Work-Related Dilemmas (English)

SG1 Property Damage: You are in a team of six who just ignored the safety regulations at your workplace due to convenience and time-constraints. Consequently, company property of high value has been damaged. As businesses that violate safety regulations can be punished by the federal government, your boss is very angry about the situation. He announces that the person responsible will receive a warning letter. You have the chance to call out one person in your team in order to save yourself and the other four people. Otherwise, all six of you will receive a warning letter, meaning that this one person will experience negative repercussions anyway. Is it appropriate for you to call out the one person in your team in order to save yourself and the other team members?

SG2 Vacation Pay Cut: You learn from a friend in the Human Resources department that the company you are working for has financial problems and will have to save money in the future. You and your team wouldn’t receive vacation pay anymore. One way to avoid this cut-back would be for one of your team members to renounce training courses. This training was meant to help her reach a new position in the organization. You could try to coerce her to renounce the training. That way, you and the rest of your team would be unaffected by the vacation pay cuts. Is it appropriate for you to persuade one person and make her renounce her training in order to save the vacation pay of yourself and the other five team members?

SG3 Donation: You have worked 10 years in the same successful company, and your team has organized the yearly summer party every year. After you finished the financial report this year, you realize that 50 $ has not been deposited into the company's account. Depositing the leftover money wouldn’t result in any benefits for the employees or yourself; only the CEO would profit. Therefore, you suggest splitting the money among your team members.
instead of depositing the extra money. No one would find out about it, and your team agrees. Is it appropriate for your team to keep the money?

**SG4 Product Idea:** You just built your own start-up with some friends, but unexpected expenses have come up, and as a result, your business is almost bankrupt. Your friend asks you to use one of the product ideas of the company you’ve been working for previously. You know that one of your co-workers from your old organization recently had a great product idea. Although you didn’t like your old workplace, you would take away your old co-worker’s credit by stealing his idea. Is it appropriate to use the product idea in order to save your start-up, your job and those of your employees?

**GG1 Media Blame:** A team consisting of five employees is going to be unjustly blamed for a failure in the sales department of your organization. You are the only person who could protect the five innocent employees and save their reputation. The CEO contacts you and asks for a statement. Nobody would find out that you talked to the CEO. You don’t know who was responsible for the failure, but you could avoid the defamation of the five employees by redirecting the blame to another co-worker, who would lose his good reputation in the department instead. Is it appropriate for you to name the one co-worker in order to keep the team’s reputation?

**GG2 Blackmailer:** A blackmailer warns you that she will publish personal data about your colleagues if you don’t release the payroll of one specific co-worker. You don’t have to expect any consequences either way, but you have the choice between publishing the financial data of one of your co-workers or risking the privacy of your five colleagues. Is it appropriate for you to release sensitive data of one specific co-worker in order to keep personal data of your five colleagues secret?

**GG3 Peanut Virus:** You overhear one of your co-workers fussing over being fired and still having to work one day. She plans to upload a serious virus on to the company’s server the next day, which would harm all managers and her direct supervisors, but not yourself. You know that she is allergic to peanuts. If she eats even one, she will get stomach pain and has to call in sick for a day. That way, she would no longer have the opportunity to upload the virus. Is it appropriate for you to induce an allergy attack in order to prevent her from spreading the virus?

**GG4 Product Keeping:** You are a middle manager working for a big sales company. You know that some of your employees keep products for themselves that have been taken from the assortment, but you don’t know who exactly. Your CEO has recently noticed that products are missing and wants to punish all employees by implementing many rules. You would not be affected by any of that, but most of your employees would suffer innocently. However, you have the possibility to blame one employee for taking the products. That way, the CEO would send a warning letter to that specific employee but wouldn’t punish all employees. Is it appropriate for you to blame one specific employee in order to save the other employees from being punished?
**Improved Work-related Dilemmas (German)**

**SG1 Property Damage:** Sie sind in einem sechsköpfigen Team, das aus Bequemlichkeits- und Zeitgründen die Sicherheitsbestimmungen an Ihrem Arbeitsplatz ignoriert hat. Folglich wurde wertvolles Eigentum des Unternehmens beschädigt. Ein Unternehmen, das gegen Sicherheitsbestimmungen verstoßt, kann von der Behörde bestraft werden. Daher ist Ihr Chef sehr verärgert. Er verkündet, dass der Verantwortliche eine Abmahnung erhalten wird. Sie haben die Möglichkeit, eine Person in Ihrem Team zu beschuldigen, um sich und die anderen vier Personen zu schützen. Diese eine Person würde ohnehin abgemahnt werden, aber ohne Ihre Beschuldigung würde Ihr gesamtes Team abgemahnt werden. Ist es angemessen, dass Sie die eine Person in Ihrem Team beschuldigen, um sich und die anderen Teammitglieder zu schützen?

**SG2 Vacation Pay Cuts:** Sie erfahren von einem Freund in der Personalabteilung, dass das Unternehmen, für welches Sie arbeiten, finanzielle Probleme hat und in der Zukunft Geld sparen muss. Sie und Ihr Team würden kein Urlaubsgeld mehr erhalten. Eine Möglichkeit, diese Einschränkung zu vermeiden, wäre, wenn eines Ihrer Teammitglieder auf eine Fortbildung verzichten würde. Diese Schulung sollte ihr helfen, eine neue Position in der Organisation zu erreichen. Sie könnten versuchen, sie davon zu überzeugen auf das Training zu verzichten. Auf diese Weise wären Sie und der Rest Ihres Teams von den Urlaubsschockkürzungen nicht mehr betroffen. Ist es angemessen, diese Person zu überzeugen und sie dazu zu bringen, auf ihre Schulung zu verzichten, um sicherzustellen, dass Sie und die anderen fünf Teammitglieder weiterhin Urlaubsgeld erhalten?

**SG3 Donation:** Sie arbeiten bereits seit 10 Jahren in demselben erfolgreichen Unternehmen und Ihr Team organisiert jedes Jahr die jährliche Sommerparty. Nachdem Sie den Finanzbericht in diesem Jahr fertiggestellt haben, stellen Sie fest, dass $50 nicht auf das Konto des Unternehmens eingezahlt wurden. Die Einzahlung dieses Restbetrags würde Ihnen oder den anderen Mitarbeitern keinen Vorteil bringen, lediglich Ihr Chef würde davon profitieren. Daher schlagen Sie vor, das Geld nicht einzuzahlen und stattdessen in Ihrem Team aufzuteilen. Niemand würde davon erfahren und Ihr Team stimmt zu. Ist es angemessen, dass Ihr Team das Geld behält?

**SG4 Product Idea:** Sie haben mit Freunden gerade ein eigenes Startup aufgebaut, allerdings sind unerwartete Ausgaben aufgekommen und Ihr Unternehmen ist fast bankrott. Ihr Freund bittet Sie, eine der Produktideen des Unternehmens zu verwenden, für das Sie zuvor gearbeitet haben. Sie wissen, dass einer Ihrer Kollegen aus Ihrer alten Organisation in letzter Zeit eine großartige Produktidee hatte. Sie mochten Ihren alten Arbeitsplatz nicht sonderlich, jedoch würden Sie sich mit fremden Federn schmücken, wenn Sie die Idee Ihres alten Kollegen klauen. Ist es angemessen, die Produktidee zu benutzen, um Ihr Startup, Ihren Job und die Jobs Ihrer Mitarbeiter zu retten?

**GG1 Mediablame:** Ein Team von fünf Mitarbeitern steht kurz davor zu Unrecht für ein Versagen in der Vertriebsabteilung Ihrer Organisation verantwortlich gemacht zu werden. Sie sind die einzige Person, die die fünf unschuldigen Mitarbeiter schützen und ihren guten Ruf retten kann. Ihr Chef kontaktiert Sie und bittet Sie um ein Gespräch. Sie wissen nicht, wer für den Misserfolg verantwortlich ist, aber Sie könnten die Anschuldigung und den Verruf der fünf Mitarbeiter vermeiden, indem Sie die Schuld auf einen anderen Mitarbeiter lenken. Dieser
würde anstelle des Teams seinen guten Ruf in der Abteilung verlieren. Niemand würde herausfinden, dass Sie mit Ihrem Chef gesprochen haben. Ist es angemessen, dass Sie einen anderen Mitarbeiter benennen, um den Ruf des ganzen Teams zu wahren?

**GG2 Blackmailer:** Eine Erpresserin fordert Sie auf, ihr die Gehaltsabrechnung eines bestimmten Mitarbeiters zu senden. Wenn Sie ihrer Forderung nicht nachkommen, droht sie, die persönlichen Daten Ihrer Kollegen zu veröffentlichen. Sie persönlich müssen mit keinen Konsequenzen rechnen, aber Sie haben die Wahl, die finanziellen Daten eines Ihrer Mitarbeiter zu veröffentlichen oder die Privatsphäre Ihrer fünf Kollegen zu riskieren. Ist es angemessen, dass Sie sensible Daten eines bestimmten Mitarbeiters freigeben, um die persönlichen Daten Ihrer fünf Kollegen geheim zu halten?

**GG3 Peanut Virus:** Sie bekommen mit, wie sich eine Ihrer Kolleginnen darüber beklagt, entlassen worden zu sein und trotzdem noch einen Tag arbeiten zu müssen. Sie plant, am nächsten Tag einen schwerwiegenden Virus über den Server des Unternehmens hochzuladen, der allen Managern und ihren direkten Vorgesetzten schaden würde. Sie wären davon nicht betroffen. Sie wissen jedoch, dass Ihre Kollegin eine Allergie gegen Erdnüsse hat. Schon wenn sie eine Erdnuss isst, bekommt sie Bauchschmerzen und müsste sich einen Tag krankmelden. Auf diese Weise hätte sie keine Möglichkeit mehr, den Virus hochzuladen. Ist es angemessen, bei Ihrer Kollegin eine allergische Reaktion auszulösen, um zu verhindern, dass diese den Virus verbreitet?

**GG4 Product Keeping:** Sie sind ein mittlerer Manager, der für eine große Vertriebsgesellschaft arbeitet. Sie wissen, dass viele Ihrer Mitarbeiter Produkte für sich behalten, die aus dem Sortiment genommen wurden, aber Sie wissen nicht genau wer. Ihr Chef hat kürzlich festgestellt, dass Produkte fehlen und will nun alle Mitarbeiter mit der Einführung zahlreicher Regeln bestrafen. Sie wären davon nicht betroffen, aber die meisten Ihrer Angestellten würden unschuldig darunter leiden. Sie haben jedoch die Möglichkeit, einen Mitarbeiter für die Entnahme der Produkte verantwortlich zu machen. Auf diese Weise würde Ihr Chef dem betreffenden Mitarbeiter eine Verwarnung schicken, ohne jedoch alle Mitarbeiter zu bestrafen. Ist es angemessen, dass Sie einen bestimmten Mitarbeiter beschuldigen, um die anderen Mitarbeiter vor der Bestrafung zu bewahren?
### Table 10

**Pearson Correlations Among Pre-Study Items**

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<td>0.18</td>
<td>-0.01</td>
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<td>0.19</td>
<td>0.14</td>
<td>0.29**</td>
<td>0.39***</td>
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<td>0.30**</td>
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<td>0.10</td>
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<td>0.11</td>
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<td>11. Bonuses</td>
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<td>12. Product Keeping</td>
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<td>13. Footbridge</td>
<td>—</td>
<td>0.27**</td>
<td>0.15</td>
<td>0.31**</td>
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<td>14. Standard Trolley</td>
<td>—</td>
<td>0.21*</td>
<td>0.25*</td>
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<td>15. Lifeboat</td>
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<td>16. Crying Baby</td>
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*Note.* *p < .05, **p < .01, ***p < .001.
### Appendix C

**Table 11**

*Spearman Rank Correlations Among Observed Main-Study Variables*

<table>
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<tr>
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<tr>
<td>1. Utilitarianism</td>
<td>Spearman's rho</td>
<td>—</td>
<td>0.880 ***</td>
<td>0.842 ***</td>
<td>0.234 ***</td>
<td>0.282 ***</td>
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<td>&lt; .001</td>
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<td>0.769</td>
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<td>2. Self-Gain</td>
<td>Spearman's rho</td>
<td>—</td>
<td></td>
<td>0.509 ***</td>
<td>0.218 ***</td>
<td>0.243 ***</td>
<td>0.077</td>
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<td>0.236</td>
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<td>3. Greater-Good</td>
<td>Spearman's rho</td>
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<td></td>
<td></td>
<td>0.168 **</td>
<td>0.255 ***</td>
<td>-0.053</td>
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<td>4. Psychopathy</td>
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<td>0.124 *</td>
<td>-0.125 *</td>
<td>0.183 **</td>
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<td>0.048</td>
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<td>9. Hierarchy</td>
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*Note.* *p* < .05, **p** < .01, ***p*** < .001.