

**THE UNIVERSITY OF CHICAGO**

**Going beyond the call of duty: Investigating the consequences of  
performing moral behaviors on meaning in life**

**by**

**Ishita Singhal**

**July 2021**

**A paper submitted in partial fulfillment of the requirements for the  
Master of Arts degree in the  
Master of Arts Program in the Social Sciences**

**Faculty Advisor: Fan Yang**

**Preceptor: Resney Gugwor**

### Abstract

Humans are moral beings, and have beliefs and expectations about their own as well as others' moral behaviors. Supererogation refers to moral behaviors that "go beyond the call of duty" (Archer, 2018; Urmson, 1958). Therefore, while they are good to perform, they are not bad to omit, unlike obligatory moral behaviors which are considered moral duties, and thus good to perform but bad to omit. It is puzzling why supererogation is performed at all, since it is not obligated; often costly (Kahn, 1992) and can even elicit negative reactions from others (Minson & Monin, 2012). This begs the question - what are some benefits of supererogation for the actor, that might motivate its performance? The present research aimed to answer this by examining meaning and happiness as positive consequences of supererogation. In Study 1 (N = 98), participants provided examples of behaviors they considered obligatory and supererogatory, and answered questions about their perceptions of the actions. We found that although both supererogation and obligation were considered equally ethical, there was greater expectation of meaning and happiness from the performance of supererogatory, than obligatory behaviors. Study 2 (N = 200) examined how perceptions of supererogation and obligation for the same actions were associated with meaning and happiness. Nine items were chosen from the most frequent obligatory and supererogatory examples from Study 1. Findings revealed that perceived supererogation predicted greater meaning and happiness in life, and that perceived choice both mediated and moderated this relationship. Taken together, supererogatory behaviors may be associated with enhanced meaning and happiness in life, relative to obligatory behaviors.

**Keywords:** moral behaviors, moral judgements, meaning in life, happiness

## Introduction

Human beings are moral beings. We expect people to behave morally, and we hold moral expectations for our own behaviors. However, not all moral behaviors are evaluated in the same ways. One type of moral behaviors that have received the most attention among philosophers and psychologists are *obligatory* actions, which are considered as good or right to perform and unethical to omit. On the other hand, *supererogation* is a subset of moral behavior and refers to actions that “go beyond the call of duty” (Archer, 2018; Urmson, 1958). Broadly speaking, these are actions that are considered good, or right to perform but their omission is not unethical or immoral. It is puzzling why supererogatory actions are performed at all, since by definition, performing supererogatory actions is not required; and it is also often costly for the self (Dahl, Gross, & Siefert, 2020; Kahn, 1992; Miller, Bersoff, & Harwood, 1990) and can elicit negative reactions from others (i.e., “do-gooder derogations”, see Minson & Monin, 2012; Monin, 2007). This raises the question of whether supererogatory actions might serve some unique psychological functions for people to be willing to perform them. Research on prosocial behaviors have demonstrated strong associations between performing prosocial behaviors and psychological benefits in the form of feelings of happiness and meaning (e.g., Dunn, Aknin, and Norton, 2008; Van Tongeren et al., 2016), although it is unclear whether the relations apply to prosocial behaviors performed out of a sense of obligation, supererogation, or both. We hypothesize that supererogatory actions may be especially related to our sense of meaning, due to the self transcendent (rather than self-focused) qualities for supererogation and meaning. The overall goal for our studies is to systematically explore the potential links between supererogatory actions (in comparison to obligatory actions) and meaning.

Previous research has revealed mixed reactions toward supererogatory behaviors. On one hand, uncommon and morally exemplary acts of goodness (supererogation) are more likely to produce feelings of moral elevation than witnessing ordinary prosocial behavior (Aquino, McFerran, & Levan, 2011). Supererogatory acts are also considered praiseworthy by children, more so than positive obligations (Kahn, 1992). Moreover, by definition supererogatory actions can fall into categories such as sainthood, heroism, and moral exemplar. However, while supererogatory behaviors are often considered more valuable than obligatory behaviors, the actors of such behaviors are not always evaluated positively.

Research on “do-gooder derogation” has shown that individuals often demonstrate resentment towards moral exemplars, and may respond negatively towards them due to feelings of perceived moral inferiority, moral confusion, and anticipated moral reproach, in the face of such exemplars (Minson & Monin, 2012; Monin, 2007). Individuals who have not partaken in a moral action evaluate those who take a moral stance more negatively (Monin, Sawyer, & Marquez, 2008). Moreover, the appraisal of those who take a moral stance is more negative than that of individuals who adopt the same stance for non-moral reasons (Cramwinckel, van Dijk, Scheepers, & van den Bos, 2013). Studies on moral typecasting have also shown that individuals are more likely to inflict pain on and withhold pleasure from moral agents, as compared to neutral targets or recipients of behavior, and that despite past good deeds, moral agents remain blameworthy in the face of transgressions, even more so than random victims (Gray & Wegner, 2009; 2011).

Do-gooder derogation is not limited to reasons of threatened moral self-worth. ‘Selfless acts’ are often appraised with cynicism and beliefs in self-interest, even in the presence of disconfirming evidence (Critcher & Dunning, 2011). People from cultures with a low tolerance for norm deviance (e.g., Japan) regard supererogatory behavior less favourably than

moderate altruism (Kawamura & Kusumi, 2020). Even positive evaluations of supererogation may be conditional. For example, Heroism is not always recognised at the moment it is being performed (Franco, Blau, & Zimbardo, 2011). It can depend on the result (successful or unsuccessful heroism) as well as type of action performed (social heroism – that goes against societal norms vs physical heroism), and is often posthumous. Thus, even actions that may ultimately be regarded as praiseworthy, may not be valued while they are being performed, and be condemned instead.

Other research suggests that while morally transcendent behaviors are considered praiseworthy, they may not hold additional value, compared to other moral behaviors. In a series of experiments conducted by Klein and Epley (2014), evaluating people's inferences for varying degrees of prosocial actions, it was found that while prosocial behaviors are evaluated favourably in general, actors of highly generous (supererogatory) behavior were not evaluated more favourably than actors of equitable (obligatory) prosocial behavior. While measuring reputational inferences of charitable donations, it was found that observers did not consider individuals who donated more than the expected prosocial standard more positively than those who simply met the expected prosocial standard. This effect persisted in a cross cultural examination measuring evaluations of generous and equitable prosocial behavior across 7 countries (Klein et al., 2015). However, these studies concern third party judgements of different moral actions, which raises the question of whether or not prosocial actors would themselves value supererogatory behaviors more meaningful than obligatory behaviors.

Taken together, these findings suggest that supererogatory behaviors are costlier than obligatory behaviors and can even be evaluated negatively. This raises an important question - are there any positive impacts of performing supererogatory behaviors on the actors?

Previous research on the benefits of performing prosocial behavior provide some groundwork

for this exploration. Behaviors that relate us to others, provide beneficence, and are self-transcendent have been shown to lead to subjective well-being and meaning in life (Lambert et al., 2013; Martela, Ryan, & Steger, 2018). Several studies have shown how engaging in prosocial behavior leads to enhancement of meaning in life (Klein, 2017; Van Tongeren et al., 2016) as well as happiness (Dunn, Aknin, and Norton, 2008; Aknin et al. 2013). The positive impacts of prosocial behavior and altruism go beyond psychological well-being, and have been shown to promote greater workforce and sports team performances (Anik et al., 2013), physical tenacity (Gray, 2010), vitality (Martela & Ryan, 2016), as well as cardiovascular health (Whillans et al., 2016).

However, this research has not made a distinction between supererogatory and obligatory moral behaviors, so it remains unclear if supererogatory behaviors can lead to a sense of meaning and happiness in life, beyond obligatory moral behaviors. A study on the neural responses to financial transfers found that while both taxation (more obligatory) and voluntary charitable donation (more supererogatory) elicit neural activity in reward processing regions, charitable donations were linked with greater feelings of ‘warm glow’ (Harbaugh, Mayr, & Burghart, 2007). Following this, some research suggests that the positive effects of prosocial behavior only exist when the behavior is entirely autonomous, such as in supererogatory actions, as opposed to obligated or coerced (Weinstein & Ryan, 2010). Lastly, meaning in life has been strongly linked with self-transcendence, and can be defined as “people's beliefs that their lives are significant and that they transcend the ephemeral present.” (Steger, 2009, p. 680). Going beyond oneself are defining traits of supererogatory behaviors as well, which suggests a strong theoretical link between the two constructs.

The present research aimed to better understand the consequences of performing different moral behaviors on the actors. We do so by examining the relationship between

obligation and supererogation, and the meaning and happiness derived from performing such moral behaviors. This relation was examined through two studies. In Study 1, participants responded to an open-ended survey about their perceptions of behaviors they considered as supererogatory and obligatory, in relation to perceived meaning, praiseworthiness, cost, and benefit of performing the described actions. Study 2 built on this and examined associations between perceptions of supererogation/obligation for a variety of moral actions, and meaning and happiness in life.

## Study 1

### Methods

#### *Participants*

We recruited 100 participants on Amazon Mechanical Turk. After screening the responses, 2 participants had to be excluded from analyses for invalid responses to the open-ended questions. Our final sample consisted of 98 participants (47% female), aged 18-82 years ( $M = 38.16$ ,  $SD = 12.43$ ), of which 70% were Caucasian. Participants completed the survey in exchange for a small amount of money. All studies for this project have been approved by the University of Chicago's Institutional Review Board. Written consent was obtained from all participants.

#### *Design and Procedure*

The present study was an open-ended survey, and utilised a within-participants design to measure differences in participants' perceptions of supererogatory and obligatory actions. Participants received the two conditions – supererogation and obligation – in a randomised order. In each condition, participants first received a description of the moral behavior type (e.g., "Supererogatory acts are actions that go beyond our duty. Performing them is morally good but NOT required. Not performing these actions is NOT considered bad or unethical.").

They were then asked to provide 1) an example of an obligatory or a supererogatory action they believed matched the description and 2) to indicate the target of that obligatory or supererogatory action.

Following this, participants were asked to rate their perceptions and feelings about the action they described on a 5-point scale (1 – Not at all to 5 – Extremely). Six questions asked participants' perceptions of the action – (1) How good/ethical is it to perform this action? (2) How praiseworthy is it to perform action? (3) How bad/unethical is it to NOT perform this action? (4) How blameworthy is it to not perform this action? (5) How beneficial is this action for the target? (6) How costly is this action for you? The other two questions measured participants' subjective feelings about performing the action – (1) How meaningful do you feel by performing this action? (2) How happy do you feel by performing this action? (see Appendix A for full description of items and questions).

## Results

In order to examine differences and similarities between the perceived associations of supererogatory and obligatory actions, we conducted linear mixed effects models and paired Welch-tests. All data was analysed using R.

For each participant, action morality was dummy coded, such that obligatory actions were coded as 0, and supererogatory actions were coded as 1. A linear mixed-effects model was conducted with perceived moral rightness/ethicality of performing the actions as the outcome, moral type as predictor, demographic variables as controls (gender, race, education, income, culture), and participant ID as random effect variables. Analysis was conducted using the lmerTest package in R (Kuznetsova, Brockhoff, & Christensen, 2017). Findings revealed no significant effect of moral type on ratings of perceived ethicality of supererogatory ( $M = 4.18, SD = 0.88$ ) and obligatory ( $M = 4.07, SD = 1.08$ ) actions ( $B = 0.163, SE = 0.12, t = 1.311, p = 0.193, 95\% CI = [-0.082, 0.408]$ ). The same model was

conducted with perceived praiseworthiness of performing the two moral actions, and it revealed a statistically significant effect of moral type ( $B = 0.7857$ ,  $SE = 0.15$ ,  $t = 5.09$ ,  $p > 0.001$ , 95% CI = [0.482, 1.090]). Performing supererogatory actions was perceived as more praiseworthy ( $M = 3.92$ ,  $SD = 1.09$ ) than performing obligatory actions ( $M = 3.17$ ,  $SD = 1.38$ ).

Next, we ran this model to examine how unethical and blameworthy participants perceive the omission of the described actions to be. Consistent with the description of the actions, a significant effect of moral type was discovered for both unethical ( $B = -2.275$ ,  $SE = 0.15$ ,  $t = -14.90$ ,  $p > 0.001$ , 95% CI = [-2.576, 1.975]) as well as blameworthy omission ( $B = -2.326$ ,  $SE = 0.16$ ,  $t = -14.84$ ,  $p > 0.001$ , 95% CI = [-2.635, 2.018]). Failure to perform an obligatory action was perceived as more unethical ( $M = 3.84$ ,  $SD = 1.40$ ), as well as more blameworthy ( $M = 3.87$ ,  $SD = 1.40$ ), than failure to perform a supererogatory action (unethical,  $M = 1.61$ ,  $SD = 0.93$ ; blameworthy,  $M = 1.61$ ,  $SD = 0.90$ ).

Following an examination of the perceptions regarding ethicality of the actions, we turned to an exploration of possible covariates of supererogatory and obligatory actions. We once again ran the mixed effects model to predict perceived associated costs and benefits of performing the moral actions. Findings revealed no significant effect of moral type (supererogatory,  $M = 4.19$ ,  $SD = 0.92$ ; obligatory,  $M = 4.26$ ,  $SD = 1.08$ ) on perceptions of the benefits of performing the two different actions ( $B = -0.061$ ,  $SE = 0.12$ ,  $t = -0.491$ ,  $p = 0.624$ , 95% CI = [-0.307, 0.184]). Similarly, there was no significant difference observed in perceptions of the costs incurred by the performance of supererogatory ( $M = 2.43$ ,  $SD = 1.20$ ) and obligatory behaviors ( $M = 2.43$ ,  $SD = 1.25$ ),  $B = 0.000$ ,  $SE = 0.15$ ,  $t = 0.00$ ,  $p = 1.000$ , 95% CI = [-0.293, 0.293].

To get a general sense of the type of obligation and supererogation examples people provided, we coded the target of the actions in terms of relationship closeness on a 3 point

scale - close kin, family, and blood relatives were coded as 3, colleagues, neighbours, and other such familiar acquaintances were coded as 2, and stranger, generalised community, and society were coded as 1. The previous model was utilised again, and found a significant effect of moral type on target-actor relationship closeness ( $B = -0.367$ ,  $SE = 0.10$ ,  $t(97) = -3.718$ ,  $p < 0.001$ , 95% CI = [-0.562, -0.173]), such that obligatory actions ( $M = 1.79$ ,  $SD = 0.94$ ) were associated with stronger target-actor relations than supererogatory actions ( $M = 1.42$ ,  $SD = 0.73$ ).

Lastly, we aimed to analyse participants' perceptions of the subjective experience of performing the two different moral actions, our major variables of interest. We ran the model with the perceived association of meaning and happiness derived from performing moral actions as the outcome. Moral type was found to be a significant predictor of both perceived meaning ( $B = 0.296$ ,  $SE = 0.14$ ,  $t = 2.125$ ,  $p = 0.036$ , 95% CI = [0.022, 0.570]) as well as perceived happiness ( $B = 0.653$ ,  $SE = 0.16$ ,  $t = 4.04$ ,  $p < 0.001$ , 95% CI = [0.335, 0.971]). Individuals believe performing supererogatory behaviors leads to higher levels of happiness ( $M = 3.87$ ,  $SD = 1.08$ ) as well as meaning ( $M = 3.95$ ,  $SD = 1.11$ ) than performing obligatory (happiness,  $M = 3.26$ ,  $SD = 1.38$ ; meaning,  $M = 3.64$ ,  $SD = 1.33$ ) behaviors.

Taken together, these results reveal an interesting pattern of differences and similarities between obligatory and supererogatory behaviors. Overall, the examples for obligatory actions involved closer relationships than those for supererogatory actions, but we did not find differences in participants' perceptions of the two types of behaviors in terms of the costs, benefits, or moral goodness for performing these actions. Moreover, participants on average indicated that omission of obligation is more unethical and deserves greater blame compared to the omission of supererogation. These findings suggest that participants distinguished the two types of behaviors in ways consistent with the definitions of them. Interestingly, performing supererogation is perceived to be associated with greater praise,

happiness, and meaning. In Study 2, we aimed to build on this further by systematically assessing the association between degrees of supererogation/obligation, benefit to society, meaning and happiness across a range of behaviors.

## Study 2

In the previous study, we examined differences and similarities in individuals' perceptions of actions they consider to be supererogatory and obligatory, and found that supererogatory actions had greater perceived associations with meaning and happiness than obligatory actions. In Study 2, we presented people with a range of actions and asked them to rate to what extent they believed the action to be supererogatory or obligatory, as well as how much meaning they perceived performing that action would bring.

## Methods

### *Participants*

As preregistered (link: <https://aspredicted.org/iq579.pdf>), we recruited 200 participants (46% female), aged 19-74 year ( $M = 38.74$ ,  $SD = 11.96$ ), of which 74% were Caucasian. Participants were recruited through Amazon Mechanical Turk, in exchange for a small sum of money. Quality control checks were present throughout the survey to ensure appropriate responses. Written consent was obtained from all participants.

### *Design and Procedure*

Unlike Study 1 where participants provided examples of actions, in this study participants received descriptions of nine different moral actions, presented in a random order, and were asked to answer questions about each of the items. Actions were chosen from responses provided by participants in the first study, such that the three most common examples for supererogatory actions (i.e., “volunteering in your community”), three most

common examples for obligatory actions (i.e., “paying taxes”), and three examples that were mentioned as both supererogatory and obligatory (i.e., “giving a birthday gift to a friend”).

For each of the nine items, participants were asked to rate their perceptions and evaluations on a 1-100 scale. They were first asked to indicate the perceived supererogatory level for each action (e.g., “By performing this action, I am – 0 = merely doing what society expects most people to do, 100 = going beyond what society expects most people to do”), followed by perceived impact of the action to target/society (0 = not significant at all, 100 = extremely significant). Participants were then asked to rate (1) perceived meaning: “Performing this action gives meaning to my life” (2) perceived happiness: “Performing this action makes me feel happy”, and 3) perceived likelihood of performing the indicated action. Finally, participants rated to what extent performing the action was “not a matter of choice at all (0)” or “completely a matter of choice (100)”. (see Appendix B for full description of items and questions).

## Results

To examine if perceptions of obligation/supererogation regarding a behavior could predict the sense of meaning derived from performing that action, as pre registered, we first conducted a linear mixed-effects model using perceived supererogation to predict meaning, with perceived impact to society included as a covariate, demographic variables as controls (gender, race, education, income, culture), and participant ID and action items as random effect variables. Analysis was conducted using the lmerTest package in R (Kuznetsova et al., 2017). Findings revealed a significant effect of perceived supererogation on ratings of meaning ( $B = 0.19$ ,  $SE = 0.020$ ,  $t = 9.257$ ,  $p < 0.001$ , 95% CI = [0.15, 0.23]), such that increased perceptions of supererogation for an action predicted a greater sense of meaning, over and above the action's impact on society. An identical model was conducted with

perceived happiness as the outcome, and found similar results - perceived higher levels of supererogation significantly predicted higher levels of happiness ( $B = 0.11$ ,  $SE = 0.02$ ,  $t = 5.294$ ,  $p < 0.001$ , 95% CI = [0.07, 0.15]), controlling for the action's impact on society.

Lastly, this model was also used to predict likelihood of performing the behaviors, and found perceived supererogation predicted *lower* likelihood of behavioral performance ( $B = -0.161$ ,  $SE = 0.02$ ,  $t = 7.499$ ,  $p < .001$ , 95% CI = [-0.20, -0.12]), while controlling for impact to society.

In order to examine the mechanism through which supererogation might be associated with meaning and happiness, we first conducted mediation analysis with perceived choice for behavioral performance as the mediator. Analysis was conducted using the mediation package in R (Tingley et al., 2014). Findings reveal that perceived choice partially mediates the relation between perceived supererogation and meaning (ACME = 0.09, 95% CI = [0.06, 0.12],  $p < .001$ ), as well as the relation between perceived supererogation and happiness (ACME = 0.20, 95% CI = [0.17, 0.24],  $p < .001$ ). Choice was also revealed to be a significant moderator for the relationship between perceived supererogation and meaning.

To examine if choice might moderate the relations between supererogation and meaning, we conducted a linear model with perceived meaning as outcome variable and perceived supererogation, choice, and their interaction as predictors. The model was qualified by a weak but significant interaction between supererogation and choice ( $\beta = -0.002$ ,  $SE = 0.001$ ,  $t = -2.675$ ,  $p = 0.007$ ). Simple slopes analysis revealed that the effect of perceived supererogation on meaning is stronger when choice is low (i.e., 1 SD below the mean) ( $M_{choice} = 73.20$ ,  $SD = 32.94$ ), ( $\beta = 0.44$ ,  $SE = 0.04$ ,  $t = 12.09$ ,  $p < 0.001$ ), compared to when choice is high (i.e., 1 SD above the mean) ( $\beta = 0.32$ ,  $SE = 0.03$ ,  $t = 10.52$ ,  $p < 0.001$ ).

Overall, our findings demonstrate that despite that perceived higher levels of supererogation was related with decreased likelihood of performing a certain behavior, it was

associated with expectations of deriving greater amounts of meaning and happiness from the performance of that action, even after taking the action's benefits to society into account. This association between increased supererogation and meaning, was partially accounted for by the increased sense of choice associated with the performance of supererogatory actions.

### **General Discussion**

The present studies examined the relationship between perceptions of supererogation for moral behaviors and the meaning associated with the performance of such behaviors. Findings from two studies demonstrate evidence that perceived supererogation may have positive associations with meaning and happiness in life. We found that when considering different moral actions, individuals perceived supererogatory behaviors to have stronger associations with meaning and happiness in life than obligatory behaviors, despite believing both types of behaviors to be equally moral, and equally beneficial to society (Study 1). Moreover, when considering the same moral actions, individuals' ratings of perceived supererogation positively predicted perceived meaning and happiness obtained from the performance of those behaviors, controlling once again for perceived impact of actions on society (Study 2). These findings suggest that perceptions of supererogation (but not perceptions of obligation), are uniquely associated with perceptions of meaning and happiness in life.

The presence of meaning and happiness in life has been strongly associated with moral behavior and self-transcendence (Aknin et al., 2013; Curry et al., 2018; Klein, 2017). Research has demonstrated that beneficence and autonomy are important components of meaning, and that the performance of moral behavior leads to meaning in life (Martela, et al. 2017). The findings from our research are in line with these claims, and build on this literature by exploring how different types of moral behaviors (i.e., supererogation and

obligation) may have varying impacts on meaning and happiness in life. Additionally, our findings on the role of perceived choice as a mediator and moderator for the relationship between perceptions of supererogation/obligation and meaning and happiness in life directly support the relation between autonomy and meaning as well. Therefore, the elements of self-transcendence and choice that distinguish supererogatory moral behaviors from obligatory moral behaviors are perhaps the reason why perceptions of supererogation appear to be more strongly associated with perceptions of meaning and happiness, than perceptions of obligation.

Studies examining the relationship between moral behavior and meaning/happiness have mainly focused on the consequences of performing moral behaviors, but do not necessarily take into account people's perceptions of these behaviors, and the role that might play in their subjective experiences of performing those behaviors. This is an important distinction to draw, as supererogatory and obligatory behaviors do not necessarily refer to fixed behaviors. Rather, different moral behaviors can be defined as supererogatory or obligatory, based on people's expectations and norms about those behaviors. While some behaviors such as extreme self-sacrifice may be unanimously classified as supererogatory, and taking care of your children as unanimously obligatory, there exists significant variability in people's perceptions of other moral behaviors, with judgements of obligation and supererogation for the same actions varying based on several societal factors. For example, children tend to evaluate all moral behaviors as more obligatory than adults (Dahl, Gross, & Siefert, 2020; Kahn 1992; Miller, Bersoff, & Harwood, 1990). Different cultures vary in their moral norms for what is considered obligatory or not, as well as in their views about supererogation, which some cultures perceive supererogation as norm deviance, and evaluate it more negatively (Kawamura & Kusumi, 2020; Miller, Bersoff, & Harwood, 1990).

It is important to note that the present study does not provide causal evidence for the relation between supererogation and meaning, but rather investigates perceived associations between the two. We hypothesize that supererogation can elicit greater feelings of meaning and happiness, but it is possible that the inverse relation exists as well. Previous research has demonstrated that happiness and positive affect can motivate prosocial behavior (Aknin, Dunn, & Norton, 2011; Isen & Levin, 1972). This suggests that having greater meaning and happiness in life can also lead individuals to perform more supererogation, although these studies haven't made the distinction between general moral behaviors and morally transcendent behaviors. Moreover, our study focuses on perceptions of meaning and supererogation, not the actual behavioral performance and experience. Future research can build on these findings to examine whether performing supererogatory behaviors can lead to presence of greater meaning than performing obligatory behaviors. This can have important implications for our understanding of the consequences of performing moral behaviors, as well as for our expectations for others' moral behaviors.

The present research also informs the literature on the relation between moral behavior and meaning in life. Meaning in life is an important part of human existence. A meaningful life has been associated with overall life satisfaction (Ho, Cheung, & Cheung, 2010), positive affect (King, Hicks, Krull, & Del Gaiso, 2006), as well as mental and physical health, including mortality and depression (Czekierda, Banik, Park, & Luszczynska, 2017; Steger, Frazier, Oishi, & Kaler, 2006). Thus, a better understanding of the sources of meaning has important repercussions for the improvement of human experience. Research aimed at investigating the sources of meaning, happiness, and self transcendence in life has identified beneficence as an important factor that may contribute to increasing subjective well-being (Martela, et al. 2017)). Our study builds on this by investigating the associations between

different kinds of moral behaviors and perceived meaning and happiness. Findings suggest that not all moral behaviors have the same impact on our well-being. People associate costly, morally transcendent behavior with increased perceptions of meaning and happiness, as compared to normative moral behaviors.

A better understanding of the consequences of moral behaviors can have implications for promoting such behaviors as well. A large body of research has focused on examining the mechanisms through which moral behaviors can be promoted in society (social learning theory, e.g. - Batson, 1998; empathy and altruism, e.g. - Batson, 2010; terror management theory, e.g. - Jonas, et al. 2002; normative influence, e.g. - Berkowitz, 1972). However, as mentioned previously, it is harder to necessitate or motivate supererogatory behaviors than obligatory behaviors, since they can be costly and may have negligible positive, and perhaps even negative reputational consequences. Our research finds that supererogation may possess a unique advantage, as participants associated perceived supererogation with greater perceptions of meaning and happiness in life. These psychological benefits of performing supererogatory behaviors might motivate their performance as well. Research has shown that individuals are motivated to self-sacrifice (supererogatory behavior) by a desire to attain self-worth and significance – components of meaning (Dugas et al., 2016). Other studies have also found that the need for meaning is associated with prosocial motivations and behavior (FioRito, Routledge, & Jackson, 2020), and that individuals demonstrate greater moral engagement following threats to meaning in life (Van Tongeren et al., 2016).

In conclusion, our studies have found that perceptions of moral supererogation (going beyond moral duty) are associated with higher expectations of meaning and happiness in life, than perceptions of moral obligation. These effects persist even when the two kinds of moral behaviors are considered equally ethical to perform, as well as when controlling for the

impact of the behaviors on society. The findings shed light on our understanding of moral behaviors, meaning, as well as their relation. Differences in the expectations and perceptions of moral behaviors can influence our expectations of the meaning and happiness we hope to derive from them. As stated previously, meaning is an important aspect of human life. While greater meaning in life is associated with several positive outcomes for life satisfaction, well-being, and health, the absence of meaning is associated with depression, and even mortality. Our findings help illuminate supererogation as a possible predictor of greater meaning in life. If the performance of supererogatory behaviors leads to greater meaning in life, it could make it worthwhile for individuals to perform such costly and risky behavior. Moreover, the potential psychological benefits of meaning and happiness may encourage morally transcendent behavior, making this a valuable exploration for society.

## References

Aknin, L. B., C. P. Barrington-Leigh, E. W. Dunn, et al. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology* 104.4: 635–652.

Abeyta, A. A., & Routledge, C. (2018). The need for meaning and religiosity: An individual differences approach to assessing existential needs. *Personality and Individual Differences*, 123, 6–13. <https://doi.org/10.1016/j.paid.2017.10.038>.

Aknin, L. B., Dunn, E. W., & Norton, M. I. (2011). Happiness Runs in a Circular Motion: Evidence for a Positive Feedback Loop between Prosocial Spending and Happiness. *Journal of Happiness Studies*, 13(2), 347–355. doi:10.1007/s10902-011-9267-5

Algoe, S. B., & Haidt, J. (2009). Witnessing excellence in action: The 'other-praising' emotions of elevation, gratitude, and admiration. *The Journal of Positive Psychology*, 4(2), 105–127. <https://doi.org/10.1080/17439760802650519>

Anik, L., L. B. Aknin, M. I. Norton, E. W. Dunn, and J. Quoidbach. 2013. Prosocial bonuses increase employee satisfaction and team performance. *PloS one* 8.9: e75509.

Archer, A. (2018). Supererogation. *Philosophy Compass*, 13(3), e12476. <https://doi.org/10.1111/phc3.12476>.

Aquino, K., McFerran, B., & Laven, M. (2011). Moral identity and the experience of moral elevation in response to acts of uncommon goodness. *Journal of personality and social psychology*, 100(4), 703–718. <https://doi.org/10.1037/a0022540>

Batson, C. Daniel. (1998). Altruism and prosocial behavior. In The handbook of social psychology. 2 vols. 4th ed. Edited by Daniel T. Gilbert, Susan T. Fiske, and Gardner Lindzey, 282–316. New York: McGraw-Hill.

Batson, C. Daniel. (2010). Empathy-induced altruistic motivation. In *Prosocial motives, emotions, and behavior: The better angels of our nature*. Edited by Mario Mikulincer and Phillip R. Shaver, 15–34. Washington, DC: American Psychological Association.

Berkowitz, Leonard. (1972). Social norms, feelings, and other factors affecting helping and altruism. In *Advances in experimental social psychology*. Vol. 6. Edited by Leonard Berkowitz, 63–106. San Diego, CA: Academic Press.

Cramwinckel, F. M., van Dijk, E., Scheepers, D., & van den Bos, K. (2013). The threat of moral refusers for one's self-concept and the protective function of physical cleansing. *Journal of Experimental Social Psychology*, 49, 1049–1058. <https://doi.org/10.1016/j.jesp.2013.07.009>.

Curry, O. S., Rowland, L. A., Van Lissa, C. J., Zlotowitz, S., McAlaney, J., & Whitehouse, H. (2018). Happy to help? A systematic review and meta-analysis of the effects of performing acts of kindness on the well-being of the actor. *Journal of Experimental Social Psychology*, 76, 320–329. <https://doi.org/10.1016/j.jesp.2018.02.014>

Critcher, C. R., & Dunning, D. (2011). No good deed goes unquestioned: Cynical reconstruals maintain belief in the power of self-interest. *Journal of Experimental Social Psychology*, 47(6), 1207–1213. <https://doi.org/10.1016/j.jesp.2011.05.001>

Czekierda, K., Banik, A., Park, C. L., & Luszczynska, A. (2017). Meaning in life and physical health: Systematic review and meta-analysis. *Health Psychology Review*, 11 (4), 387–418. <https://doi.org/10.1080/17437199.2017.1327325>.

Dahl, A., Gross, R. L., & Siefert, C. (2020). Young Children's Judgments and Reasoning about Prosocial Acts: Impermissible, Suberogatory, Obligatory, or Supererogatory?. *Cognitive development*, 55, 100908. <https://doi.org/10.1016/j.cogdev.2020.100908>

Dugas, M., Bélanger, J. J., Moyano, M., Schumpe, B. M., Kruglanski, A. W., Gelfand, M. J., Touchton-Leonard, K., & Nociti, N. (2016). The quest for significance motivates self-sacrifice. *Motivation Science*, 2(1), 15–32. <https://doi.org/10.1037/mot0000030>

Dunn, E. W., L. B. Aknin, and M. I. Norton. 2008. Spending money on others promotes happiness. *Science* 319.5870: 1687–1688.

FioRito, T., Routledge, C., & Jackson, J. (2020). Meaning-motivated community action: The need for meaning and prosocial goals and behavior. *Personality And Individual Differences*. <https://doi.org/10.1016/j.paid.2020.110462>

Franco, Z. E., Blau, K., & Zimbardo, P. G. (2011). Heroism: A Conceptual Analysis and Differentiation between Heroic Action and Altruism. *Review of General Psychology*, 15(2), 99–113. <https://doi.org/10.1037/a0022672>

Gray, K. 2010. Moral transformation: Good and evil turn the weak into the mighty. *Social Psychological and Personality Science* 1.3: 253–258.

Gray, K., & Wegner, D. M. (2009). Moral typecasting: Divergent perceptions of moral agents and moral patients. *Journal of Personality and Social Psychology*, 96(3), 505–520. <https://doi.org/10.1037/a0013748>

Harbaugh, W. T., Mayr, U., & Burghart, D. R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science (New York, N.Y.)*, 316(5831), 1622–1625. <https://doi.org/10.1126/science.1140738>

Ho, M. Y., Cheung, F. M., & Cheung, S. F. (2010). The role of meaning in life and optimism in promoting well-being. *Personality and Individual Differences*, 48(5), 658–663. <https://doi.org/10.1016/j.paid.2010.01.008>

Isen, A. M., & Levin, P. F. (1972). Effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, 21(3), 384–388. doi:10.1037/h0032317

Jonas, Eva, Jeff Schimel, Jeff Greenberg, and Tom Pyszczynski. 2002. The Scrooge effect: Evidence that mortality salience increases prosocial attitudes and behavior. *Personality and Social Psychology Bulletin* 28.10: 1342–1353.

Kahn P. H., Jr (1992). Children's obligatory and discretionary moral judgments. *Child development*, 63(2), 416–430.

Kawamura, Y., & Kusumi, T. (2020). Altruism does not always lead to a good reputation: A normative explanation. *Journal of Experimental Social Psychology*, 90, 104021. doi:10.1016/j.jesp.2020.104021

King, L. A., Hicks, J. A., Krull, J. L., & Del Gaiso, A. K. (2006). Positive affect and the experience of meaning in life. *Journal of Personality and Social Psychology*, 90, 179–196. <https://doi.org/10.1037/0022-3514.90.1.179>.

Klein, N. (2017). Prosocial behavior increases perceptions of meaning in life. *The Journal of Positive Psychology*, 12(4), 354–361. <https://doi.org/10.1080/17439760.2016.1209541>

Klein, N., & Epley, N. (2014). The topography of generosity: Asymmetric evaluations of prosocial actions. *Journal of Experimental Psychology: General*, 143(6), 2366–2379. <https://doi.org/10.1037/xge0000025>

Klein, N., Grossmann, I., Uskul, A. K., Kraus, A. A., & Epley, N. (2015). It pays to be nice, but not really nice: Asymmetric reputations from prosociality across 7 countries. *Judgment and Decision Making*, 10(4), 355–364.

Lambert, N. M., Stillman, T. F., Hicks, J. A., Kamble, S., Baumeister, R. F., & Fincham, F. D. (2013). To Belong Is to Matter: Sense of Belonging Enhances Meaning in Life. *Personality and Social Psychology Bulletin*, 39, 1418–1427.

Martela, F., and R. M. Ryan. 2016. Prosocial behavior increases well-being and vitality even without contact with the beneficiary: Causal and behavioral evidence. *Motivation and Emotion* 40.3: 351–357.

Martela, F., Ryan, R. M., & Steger, M. F. (2018). Meaningfulness as satisfaction of autonomy, competence, relatedness, and beneficence: Comparing the four satisfactions and positive affect as predictors of meaning in life. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 19(5), 1261–1282. <https://doi.org/10.1007/s10902-017-9869-7>

Miller, J. G., Bersoff, D. M., & Harwood, R. L. (1990). Perceptions of social responsibilities in India and in the United States: Moral imperatives or personal decisions? *Journal of Personality and Social Psychology*, 58(1), 33–47.  
<https://doi.org/10.1037/0022-3514.58.1.33>

Minson, J. A., & Monin, B. (2012). Do-gooder derogation: Putting down morally-motivated others to defuse implicit moral reproach. *Social Psychological and Personality Science*, 3, 200–207. <https://doi.org/10.1177/1948550611415695>.

Monin, B. (2007). Holier than me? Threatening social comparison in the moral domain. *International Review of Social Psychology*, 20, 53–68. Retrieved from <http://psych.stanford.edu/~monin/papers/MoninIRSP2007.pdf>.

Monin, B., Sawyer, P., & Marquez, M. (2008). The rejection of moral rebels: Resenting those who do the right thing. *Journal of Personality and Social Psychology*, 95, 76–93.  
<https://doi.org/10.1037/0022-3514.95.1.76>.

Steger, M. F. (2009). Meaning in life. In Oxford handbook of positive psychology. 2d ed. Edited by S. J. Lopez and C. R. Snyder, 679–687. Oxford: Oxford University Press.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counselling Psychology*, 53(1), 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>.

Urmson, J., 1958. Saints and Heroes. In: A. Melden, ed., Essays in Moral Philosophy. Seattle: University of Washington Press.

Van Tongeren, D. R., Green, J. D., Davis, D. E., Hook, J. N., & Hulsey, T. L. (2016). Prosociality enhances meaning in life. *The Journal of Positive Psychology*, 11(3), 225–236. <https://doi.org/10.1080/17439760.2015.1048814>

Weinstein, N., & Ryan, R. M. (2010). When helping helps: autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of personality and social psychology*, 98(2), 222–244. <https://doi.org/10.1037/a0016984>

Whillans, A. V., E. W. Dunn, G. M. Sandstrom, S. S. Dickerson, and K. M. Madden. 2016. Is spending money on others good for your heart? *Health Psychology* 35.6: 574–583.

## Appendix A

### Study 1

#### *Description for obligatory actions*

Obligatory acts are actions that we consider as our duty. Performing them is morally right and required. Not performing these actions is considered bad or unethical.

Please give us an example of an action that you consider to be obligatory:

- a) What is the obligatory action?
- b) Who is the target of your obligatory action (e.g., a stranger, colleague, parent etc.)?

#### *Description for supererogatory actions*

Supererogatory acts are actions that go beyond our duty. Performing them is morally good but NOT required. Not performing these actions is NOT considered bad or unethical.

Please give us an example of an action that you consider to be supererogatory:

- c) What is the supererogatory action?
- d) Who is the target of your supererogatory action (e.g., a stranger, colleague, parent etc.)?

#### *Rating questions (both obligatory and supererogatory)*

- a) How good/ethical is it to perform this action?
- b) How praiseworthy is it to perform this action?
- c) How bad/unethical is it NOT to perform this action?
- d) How blameworthy is it to NOT perform this action?
- e) How beneficial is this action for the target?
- f) How costly is this action for you?
- g) How meaningful do you feel by performing this action?
- h) How happy do you feel by performing this action?

## Appendix B

### Study 2

#### *Obligatory action items (as indicated by respondents in Study 1)*

- a) Finishing assigned tasks on time at work
- b) Paying taxes
- c) Tipping a server

#### *Supererogatory action items (as indicated by respondents in Study 1)*

- a) Giving money to a charity
- b) Donating blood
- c) Volunteering in the community

#### *Ambiguous action items (indicated as both supererogatory and obligatory by respondents in Study 1)*

- a) Returning someone's lost wallet
- b) Giving up a seat on public transportation for someone who needs it
- c) Giving a birthday gift to a friend

#### *Rating questions (all items)*

- a) By performing this action, I am
  - 0 - Merely doing what society expects most people to do
  - 100 - Going beyond what society expects most people to do
- b) The impact of this action on the target/society is
  - 0 - Not significant at all
  - 100 - Extremely significant
- c) Performing this action is
  - 0 - Not a matter of choice at all
  - 100 - Completely a matter of choice

- d) Performing this action makes me feel happy  
(0 - Not at all, 100 - Extremely)
- e) Performing this action gives meaning to my life  
(0 - Not at all, 100 - Extremely)
- f) I am likely to perform this action  
(0 - Not at all, 100 - Extremely)