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How and When Positive Actions by Agents Influence Action Tendencies in Observers: Benefits Mediate the Gratitude to Morality Link Under Dyadic Morality

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ABSTRACT

The theory of dyadic morality (TDM) is a comprehensive framework for addressing moral behaviour but to date has focused on how perceptions of harm are regulated by norms to influence felt harm through disgust, as well as directly. The present study draws upon research on corporate social responsibility and the TDM to propose that moral behaviour also can be explained by perceptions of benefits. The effects of perceived positive actions on felt benefits are proposed to follow two paths: an indirect path where moral identity moderates the effects of perceived positive actions on gratitude and a direct path. Felt benefits are then hypothesised to influence action tendencies supporting moral behaviour. Hypotheses are tested in experimental studies, with random samples of adults obtained in three countries: Norway ($N=162$), Italy ($N=156$) and the United States ($N=156$). The findings suggest that felt vicarious gratitude by observers bolsters judged benefits provided by a corporate actor to its employees and results in positive action tendencies towards the actor. Gratitude felt in response to the good fortune of others functions to appreciate the positive in life and support an actor who benefits the public. By doing good, organisations not only help beneficiaries but seem to create cascading consequences that spill over to boost the well-being of the public, who in turn respond with favour to the benefactor.

1 | Introduction

The theory of dyadic morality (TDM) posits that moral judgements are functions of perceptions of harm done by an intentional agent that injures a vulnerable actor (Schein and Gray 2018). Two routes to felt harm have been studied: ‘The direct perception that an act is harmful, and the indirect perception that an act destroys a value—which then causes direct harm’ (Schein and Gray 2018, 47). The indirect path is mediated by negative moral emotions (e.g., social disgust) aroused in the observer of the harm done to another person or social entity (Schein et al. 2016). Further, the dependence of felt moral emotions on

perceptions of harm is hypothesised to be moderated by norms shaped by cultural learning (Schein and Gray 2018).

To date, the TDM has explained moral judgement by focusing on the central roles of negative moral emotions and harm (Bagozzi et al. 2024). We develop and test a reconceptualisation of the TDM whereby moral judgements are determined by perceptions of benefits done by an intentional agent that enhances or augments a receptive actor. Two routes to felt benefits are proposed: a direct effect from witnessing positive acts by an agent and an indirect effect whereby felt gratitude mediates the perceived positive acts, and norms held by the observer moderate this effect.

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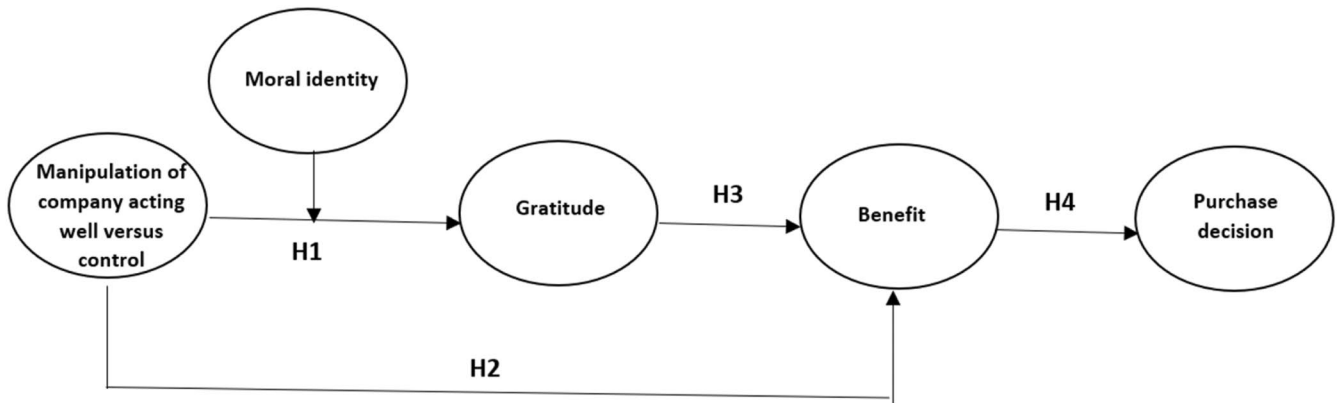


FIGURE 1 | Moderated serial mediation model for mediation of manipulated effects on dependent variables (Hayes model 83).

In our study, which is conducted experimentally in three countries (Norway, Italy and the United States), respondents were exposed to manipulations describing a developing pandemic threat from a new unknown virus. Participants in the experimental groups were exposed to a story of a large company in their country taking exemplary actions to mitigate the effects of the virus and protect its workers in various ways. Participants in the control groups were presented with a story describing the company in a largely neutral way and ending with a statement that the company is currently reviewing its practices with respect to how to respond to viruses (see Section 3).

Figure 1 summarises the model tested. Manipulated positive actions are shown to influence gratitude, whereby the moral identity of the observer moderates the effects of observed positive actions on gratitude. Gratitude, in turn, affects felt benefits, and through benefits, action tendencies in the form of purchase decisions towards the company (i.e., intentions and behavioural expectations). Observed positive actions also have a direct effect on felt benefits, analogous to the influence of observed negative actions on felt harm under the TDM.

2 | TDM for Benefits

2.1 | Positive Moral Emotions

Felt positive moral emotions are feelings based on approval, support or admiration. They reflect ‘accepting-sentiments’ towards another actor (e.g., person, organisation) in response to benefits the agent gives to a third party other than the observer. Unlike basic and self-conscious emotions, which are self-focused, positive moral emotions are other-focused (Tangney et al. 2007) and further ‘must bear on the interest or welfare of a society as a whole or at least of persons other than the judge or agent’ (Gewirth 1984, 978, emphasis added). Positive moral emotions thus connect and bind a person to social norms embedded in a larger culture or social structure (Stets and Turner 2008; Turner and Stets 2006).

Haidt (2003) terms positive moral emotions, ‘other praising’ emotions and includes gratitude, awe and elevation in this set. A fourth positive moral emotion recently studied is admiration (Bagozzi et al. 2023). One defining characteristic of positive

moral emotions is their dependence on ‘disinterested elicitors’ where such emotions are ‘triggered easily and frequently even when the self has no stake in the triggering event’ (Haidt 2003, 853). An observer of an agent benefitting another person can be thought to respond to an agent boosting or augmenting the human dignity or autonomy of the other person (Shweder et al. 1997). Positive moral emotions by an observer of positive acts towards others can motivate the observer to experience action tendencies to ‘benefit others or else uphold or benefit the social order’ (Haidt 2003, 854).

Haidt (2003) did not consider distinctions between other-praising emotions and largely saw them as undifferentiated. Two studies were found that show that other-praising emotions can be interpreted as parallel instances of one overall factor. Xie et al. (2019) demonstrated in the corporate social responsibility context that awe, gratitude and elevation (the tranquillity triad) indicated one representation of other-praising emotions with respect to the ethics of autonomy (Study 1) and the ethics of community (Study 2). According to research by Shweder et al. (1997), items measuring each instance of other-praising emotions (i.e., awe: amazed, feeling of wonder; gratitude: thankful, grateful; elevation: touched, moved) loaded on three separated first-order factors, but the first-order factors were explained by one second-order (‘other-praising’) factor. This suggests that awe, gratitude and elevation are distinct at a relatively concrete level, but at an abstract level show much common variance so as to be interpreted as a single overarching representation of other-praising emotions.

In the only other study that we found examining multiple positive moral emotions, Bagozzi et al. (2023) discovered in an investigation of government responsibility during the COVID-19 pandemic that six items measuring other-praising emotions (admiration, thankful, grateful, inspired, touched and uplifted) all loaded highly on one factor. This again suggests that measures of other-praising emotions converge to indicate one overall reaction.

Might some other-praising emotions fit some contexts better than others? This possibility was suggested by an anonymous reviewer of this paper who raised the issue of emotion-situation fit. The four other-praising emotions investigated to date—admiration, awe, gratitude and elevation—can be interpreted as subtly emphasising one of three orientations:

the originator of affect, the person experiencing the affect or a relationship between originator and experience. For example, admiration focuses relatively more on the source of affect, awe and elevation on the personally felt affect and gratitude on both the originator and experience. That is, unlike admiration, awe and elevation, gratitude entails relatively more of a kind of bi-directionality: feeling grateful towards the benefactor but at the same time having an urge to give back to the benefactor.

In our study, we concentrate on gratitude as the positive moral emotion of interest because it has more extensive theoretical treatment in the literature, and it fits the benefits conveyed by a company protecting its employees during a health threat. McCullough et al. (2001) define gratitude as an emotion linking a person providing benefits directly to another person: ‘...people experience gratitude most typically when they perceive that a benefactor has acted to promote their well-being’ (p. 253). Here the receiving actor is benefited straight on by the benefactor. We conceive of gratitude as a positive moral emotion, where a person observing a benefactor promoting the welfare of a target actor, other than the self, feels gratitude in an indirect sense. The mechanism here is a kind of vicarious learning where the observer gains knowledge through the experience of others (Bandura and Walters 1977). This is a type of social cognition where an observer represents experiences of others in a personally meaningful way (Nanay 2020). Empathy seems also to be a part of this process (Baron-Cohen 2011). Indeed, it may enable the observer to resonate with the emotional experience of the beneficiary, thereby facilitating a deeper affective connection to the observed prosocial act. We posit that vicarious gratitude is experienced intuitively in an automatic way without much conscious deliberation or reflection (Schein and Gray 2015). Similar to the functioning of perceived harm in the TDM, we interpret benefits in a synthetic way consisting of three elements: an agent who acts intentionally, to provide benefits, to a receptive actor. The perceptual processes entail attributions of causality from agent as benefactor to actor as recipient, as inferred or concluded by an observer. Experiencing or observing such benefits boosts reciprocity (Algoe et al. 2008; Lambert et al. 2009).

The effects of moral gratitude in this indirect sense are likely to be weaker than that observed for harm. Indeed, studies of moral behaviour triggered by moral wrongs have tended to find powerful main effects because of the shocking and uncommon nature of the moral acts studied: for example eating one’s dog after it dies in a car accident (Haidt et al. 1993), purchasing a live chicken at a market, having sex with it, and then cooking and eating it (Haidt 2012, 3–4), and masturbating whilst cuddling one’s teddy bear (Haidt and Hersch 2001). Positive affect generally is weaker than negative affect and engenders less pressing urges for coping with it (Fredrickson 2001). As a result, the elicitation of positive moral emotions, such as gratitude, frequently requires a catalyst to produce its effects for common everyday behaviours. Two studies took this approach in the corporate social responsibility literature where altruistic values from Schwartz’s (1992) self-transcendent values scale were found to moderate the effect of a company practising the protection of workers on gratitude (Romani et al. 2013), and affective empathy was found to moderate the effect of a company enacting environmentally responsible actions (Xie et al. 2015). We turn now to a discussion of a

wide category of such moderating variables, with special focus on one especially relevant for moral behaviour, namely moral identity.

2.2 | Norms

The TDM maintains that negative moral emotions are contingent on violations of norms. Under the TDM, norms are construed to encompass expectancies, beliefs, values and rules governing how people act or must act (Schein and Gray 2018, 35–36).

We chose moral identity as a personal norm regulating the effects of manipulated positive acts on felt gratitude when an observer discovers a benefactor giving benefits to another actor. Moral identity ‘involves the importance or salience of morality to a person’s identity’ (Hardy and Carlo 2011, 212), and has been studied in two related ways: as a trait of character and as a social cognition.

Blasi (1984, 1993, 2004) proposed a Self-Model of moral identity that treats it as a personality disposition. He posited that, initially, moral judgements involve a sense of personal responsibility for an action (Blasi 1983). Judgements of responsibility rest on the degree to which a person feels that being moral is integral to his or her sense of self, which exists as a disposition or trait. People strive to maintain self-consistency between their moral identity and moral concerns (Blasi 1993, 2004). Moral identity can be considered a type of unity or harmony between the moral and self-systems, whereby moral imperatives promote commitment to moral principles (Colby and Damon 1992).

A different point of view has been taken by Aquino and colleagues who see moral identity as a kind of social cognition (e.g., Aquino et al. 2009; Boegershausen et al. 2015). The social-cognitive model maintains that ‘situational cues (e.g., seeing an American flag) have the power to momentarily influence social information processing by activating or deactivating certain knowledge structures (e.g., one’s national identity), or schemas, in an individual’s working self-concept’ (Boegershausen et al. 2015, 162). Aquino et al. (2009, 124) define moral identity in such a context as ‘a complex knowledge structure consisting of moral values, goals, traits, and behavioral scripts...acquired through life experiences’. Knowledge structures forewarn people of moral imperatives and elicit particular moral responses spontaneously under selective conditions. Aquino and Reed II (2002) developed and validated a five-item scale to measure moral identity as a disposition or virtue, which has been used in many studies (e.g., Bhattacharya et al. 2023; Mayer et al. 2012; Xie et al. 2015) and is employed herein as well.

Following Blasi’s self-model, we interpret moral identity as a personality trait shaped by intrinsic moral commitments and developmental consistency. Aquino et al. (2011) found that people exposed to uncommon moral goodness had higher levels of moral elevation (a positive moral emotion strongly correlated with gratitude, but under some conditions can lead to differences in consequences, see Siegel et al. 2014), the greater their moral identity. Here moral identity supplies a source of motivation fostering self-consistency (Blasi 2004). We thus hypothesise that

H1. *As moral identity of an observer increases, the effects of an agent taking exemplary actions to respond to a pandemic on an actor patient will intensify felt gratitude of the observer.*

2.3 | Moral Benefits

The TDM focuses on moral harms where an intentional agent causes injury to a susceptible actor who instinctively senses the harm (Schein and Gray 2018). The TDM posits that a dyadic comparison is made between a norm violation, perceived intrinsically, that is morally condemned. The judgement of felt harm is an evaluative response which can be defined as ‘a careful explanation or overall appraisal of something to determine its worth, value, or desirability’ (American Psychological Association Dictionary of Psychology). The harm-based cognitive schema has four parts: (1) an intentional agent (2) acts purposively to (3) harm a susceptible actor and (4) an observer reacts intuitively to the threat.

Moral judgements are ‘evaluations (good vs bad) of the actions or character of a person that are made with respect to a set of virtues held to be obligatory by a culture or subculture’ (Haidt 2001, 817). Such judgements are also made of government or organisation actions or policies (e.g., Bagozzi et al. 2023; Bagozzi et al. 2024). Moral judgements exhibit motivational impetuses (Effron and Miller 2012; Skitka and Wisneski 2011). The TDM spotlights harm as a type of evaluation of an intentional act by an agent that causes suffering to a vulnerable actor. Schein and Gray (2018, 38) stress that ‘mere perception of suffering and vulnerability is not enough to give rise to a robust moral judgement... one must care about the vulnerable mind via empathy (Baron-Cohen 2011; Eisenberg and Miller 1987, emphasis in original)’.

We propose that the underlying logic of the TDM applies also to the functioning of a benefit-based cognitive template where an intentional agent causes benefits or healing to a receptive actor who intuitively senses the benefit. A comparison is made between the occurrence of the observance or respect of a norm, perceived intuitively, that is morally praiseworthy. Similar to the pathway for perceived harm, two routes to felt benefits are proposed: an indirect pathway where perceived benefits fulfil a value or norm that activates positive moral emotions (e.g., gratitude), which in turn, influence felt benefits, and a direct pathway from manipulated positive actions to felt benefits. The judgement of felt benefits is an evaluative response. The benefit-based cognitive schema has four parts: (1) an intentional agent (2) acts purposively to (3) benefit the well-being of a susceptible actor and (4) an observer reacts intuitively to the benefit. The reward system in the brain undergirds this process where ‘various aspects of moral value—including the subjective value of moral actions, outcomes, and their integration—are supported by a domain-general cognitive and neural architecture implicated in reward-related processes’ (Miller and Cushman 2019, 59).

Analogous to the TDM for harm, we propose that experienced benefits rest on perception of delight or pleasure by a sensitive actor. Vicarious gratitude arises through observational learning and leads to perception of benefits via empathy (Baron-Cohen 2011; Eisenberg and Miller 1987). Morelli et al. (2015, 57) show that the ‘ability to share, celebrate, and enjoy others’

positive emotions...relates with increased prosocial behavior, social closeness, and well-being’ (see also Andreychik and Lewis 2017). Similar to the effects of experienced suffering on evaluations of harm by the TDM, we suggest that experienced delight or pleasure by others influences perceived benefit.

As a consequence, we propose that

H2. *The greater the effects of an agent taking exemplary actions to respond to a pandemic benefiting an actor patient, the more the felt benefit by the observer.*

H3. *The more an observer feels gratitude towards an agent taking exemplary action benefiting an actor patient, the greater the felt benefit by the observer.*

2.4 | Transformation of Felt Benefits

The effects of felt moral harm on immorality have been studied by a number of researchers where evaluations of harm have been measured by such unipolar scales as not immoral-extremely immoral, not wrong at all-wrong, not blameworthy-blameworthy (e.g., Schein et al. 2016). In a parallel way, we examine the effects of felt benefits on morality, where we use bipolar measures, consistent with the use of the semantic differential in attitude research (see Section 3).

Morality is reflected by a wide range of reactions such as positive judgements, moral commendation, moral virtue, integrity, goodness and righteousness. We focus on action tendencies because they are the most automatic, spontaneous and instinctive volitional responses. An action tendency is synonymous with action readiness (Frijda 1987) and is defined as ‘what links experience and behavior: felt readiness can be considered a reflection of the actual state of behavioral readiness...[a state] defined as the individual’s readiness or unreadiness to engage in interaction with the environment’ (Frijda et al. 1989, 213).

Action readiness can exhibit tendencies to approach (e.g., seek contact), be with, protect, help, serve or in some other way engage an actor positively. Action tendencies are first-person decisions or choices. Morsella and Bargh (2011) found that action tendencies can also be intuitive, unconscious or supraliminal. In our study, the agent is a company reacting benevolently on behalf of its employees to protect them from a pandemic. We investigate two generic action tendencies: intentions to buy products from the company (e.g., Gollwitzer 1993) and behavioural expectations that one will buy products from the company (Warshaw and Davis 1985).

We posit that

H4. *The greater the felt benefit of an agent taking exemplary actions to respond to a pandemic, the stronger the intentions and behavioural expectancies to support the agent.*

In sum, the present research builds on research in corporate social responsibility and on the TDM to explore how the public reacts to laudatory actions taken by a company in response to a new pandemic. Similar to emerging research in corporate social

responsibility where awe, gratitude and elevation have been examined in combination with each other (Xie et al. 2019) or where gratitude has been examined alone as a moral emotion (Romani et al. 2013; Xie et al. 2015), we focus on the role of vicarious gratitude that the public experiences when corporations act to benefit others. To go beyond the moral judgement mechanism investigated in the corporate social responsibility literature, we drew upon the TDM where focus has been on the negative consequences of violation of moral norms (Schein and Gray 2018). We argued that when actors such as government, organisations or individuals act positively to benefit others, this functions to induce feelings of gratitude and judgements of benefits in the public. Judged benefits mediate the effect of felt gratitude on action tendencies and result from reactions to norm conformance or fulfilment which serve as a basis for social evaluation.

3 | Method

We chose three countries to validate the TDM for benefits and to address generalisability and replicability. We chose Norway and Italy because both are relatively homogeneous within country, in terms of cultural/ethnic characteristics, yet differ with respect to social identity, with Norwegians being horizontally individualistic and Italians being vertically individualistic. Norway and Italy represent relative variety as well as being indicative of classic differences between Northern and Southern Europeans. Norwegians tend to focus on socialism or neo-liberal forms of government (Telhaug et al. 2004), whereas Italians tend to emphasise achievement, power and status and support more conservative governance (Biemmi 2015; Germani et al. 2020). The United States is more heterogeneous than Norway and Italy but largely reflects vertically individualistic values. Similar to Italy, but contrasting with Norway, Americans tend to emphasise hierarchy and gaining personal status by exceeding others, whereas Norwegians tend to value equality more and stress uniqueness but not hierarchy or personal status. Nelson and Shavitt (2002) found that Danes, who might be expected to be similar to Norwegians, were more horizontal in orientation and Americans more vertical (see also, Vargas and Kimmelmeier 2013). These countries give us tests of generalisability of the theory with relatively wide variation in cultural differences. The investigation of these three countries might also be considered evidence for a kind of replication in the sense that the same theory is tested in each country by use of the same experimental method and the same measurements. Moreover, we explicitly chose to use random samples of adults in each country to bolster claims of generalisability and replicability.

Participants and procedure. We used GPower to determine the a priori sample sizes for all three studies for our interaction. The a priori sample size required was 159 for an effect size of 0.05 and power of 0.80. We chose initial samples of $N = 200$ in each country to better ensure final sample sizes of 159 or greater. We used the Web-Power R package to compute the power for model 7 in Hayes (2022) where the manipulation of the company doing well interacts with moral identity to affect gratitude, and gratitude predicts perceived benefits (Xu et al. 2024). For the Norwegian sample and findings, the power of the conditional indirect effect of the manipulation on perceived benefits was 0.96, the power of the direct effect on the perceived benefits was 0.75 and the

power of the moderation on gratitude was 0.94. For the Italian sample, the three respective powers were 1.00, 0.49 and 0.99. For the American sample, the three respective powers were 0.99, 0.52 and 0.87.

The sampling framework in each country was based on on-line platforms similar to that used by Qualtrics or Prolific. In each country, equal samples were selected across geographic regions, depending on population densities and with a goal to achieve representation of approximately equal numbers of men and women, where the age range was from 20 to 65 or 70, depending on the country. Appendix B summarises the procedure.

Age and gender did not differ across the three countries. Likewise, education levels did not differ between Norway and Italy ($M_N = 2.59, M_I = 2.46, t = 1.39$) and between Norway and the United States ($M_N = 2.59, M_{US} = 2.76, t = -1.947$). Education did differ between Italy and the United States ($M_I = 2.46, M_{US} = 2.76, t = -3.23$).

Participants were randomly assigned to either a positive action or control condition (see Appendix A). Because the samples were selected from the population of all adult residents aged from 20 to more than 65 years old and included people not likely to be familiar with psychological experiments and questionnaires, we developed scenarios expressed in narrative form so as to engage and involve participants as meaningfully as possible. This places emphasis on external validity, without sacrificing internal validity excessively. Each scenario begins with a prologue describing 'a developing pandemic threat' and stating that respondents would read a description of a company and its actions in this situation. Next, depending on the condition, each participant read a paragraph portraying the company acting either responsibly or neutrally in relation to the pandemic.

Measures. Table 1 presents the questionnaire items, factor loadings of items and reliabilities of scales or correlations for two-item scales.

Analytical model. Hypotheses in all three studies were tested with Hayes (2022) Process Model 83 (see Figure 1). Bootstrapping for confidence intervals was 10,000. We report how we determined our sample sizes, all data exclusions, all manipulations and all measures in the study. The study was not preregistered. Data are available at OSF data depository: https://osf.io/bqvrn/?view_only=b221b98d57864768a76221a28aac3863.

3.1 | Study 1 (Norway)

3.1.1 | Participants and Procedure

The sample consisted of 77 men (48%) and 85 women (52%) Norwegians. Ages of respondents fell into these categories inconclusively: 13% between 20 and 25 years old, 21% between 26 and 35, 22% between 36 and 45, 19% between 46 and 55, 19% between 56 and 65, and 7% above 65. With respect to education, 44% had a high school education, 5% less than high school and 51% with an undergraduate degree or higher. From the initial sample of 200, 38 participants responded either too quickly or provided the same numbered responses for most items and were

TABLE 1 | Variables, questionnaire items, factor loadings and reliabilities.

Variables	Items	Factor loadings			Reliabilities		
		Sample 1 (Norway)	Sample 2 (Italy)	Sample 3 (United States)	Sample 1 (Norway)	Sample 2 (Italy)	Sample 3 (United States)
Mediators							
Gratitude (see Grappi et al. 2013)	Thankful						
5-point, 'Not at all' to 'very much' with 'moderately' in the middle.	Grateful				$r=0.75$	$r=0.87$	$r=0.89$
Perceived benefit (see Schein et al. 2016)	1. How harmful or beneficial do you think these actions are for yourself?	0.79	0.80	0.81	0.83	0.88	0.87
5-point 'very beneficial' or 'very healthful' or 'very wholesome' to 'very harmful', or 'very threatening' to 'very dangerous', with 'neither beneficial nor harmful' or 'neither healthful nor threatening' or 'Neither wholesome nor dangerous' in the middle, respectfully.	2. How threatening or healthful do you think these actions are for yourself?	0.78	0.87	0.93			
	3. How dangerous or wholesome do you think these actions are for yourself?	0.80	0.86	0.75			
Moderators							
Moral identity (see Aquino and Reed II 2002)	'Listed below are some characteristics that may describe a person: caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, and kind. For a moment, visualise in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you leave a clear image of what this person would be like, answer the following questions.'				0.92	0.90	0.90
5-point 'Does not describe me at all' to 'Describes me very well', with 'Describes moderately well' in the middle.	1. It would make me feel good to be a person who has these characteristics.	0.76	0.83	0.80			
	2. Being someone who has these characteristics is an important part of who I am.	0.84	0.89	0.79			
	3. I would be proud to be a person who has these characteristics.	0.87	0.78	0.83			
	4. Having these characteristics is really important to me.	0.87	0.78	0.77			
	5. I strongly desire to have these characteristics.	0.81	0.74	0.8			

(Continues)

TABLE 1 | (Continued)

Variables	Items	Factor loadings			Reliabilities		
		Sample 1 (Norway)	Sample 2 (Italy)	Sample 3 (United States)	Sample 1 (Norway)	Sample 2 (Italy)	Sample 3 (United States)
Dependent variables							
Purchase decisions (see Warshaw and Davis 1985)	1. I intend to buy products from the company.				$r=0.86$	$r=0.84$	$r=0.79$
5-point 'Not at all' to 'very much' and 'very unlikely' to 'very likely'.	2. How unlikely-likely are you to buy products from the company?						

removed. The final sample sizes by condition were 81 in the manipulation condition and 81 in the control condition.

3.1.2 | Results

The two items measuring gratitude correlated $r=0.75$. Factor loadings for perceived benefits were between 0.78 and 0.80. The reliability for these items was 0.83. Factor loadings for moral identity were between 0.76 and 0.87. The reliability for these items was 0.92. The two items measuring purchase decisions correlated $r=0.86$ (see Table 1).

Table 2a presents the correlations, means and standard deviations for the variables shown in Figure 1. This is done for the manipulation and control conditions.

3.1.3 | Manipulation Check

We included a manipulation check of respondent's perception of the degree that the company acted irresponsibly or responsibly. The five-point scale recorded whether the respondent believed the company 'definitely acted irresponsibly', 'somewhat acted irresponsibly', 'acted neither irresponsibly nor responsibly', 'somewhat acted responsibly' or 'definitely acted responsibly'. The results of the manipulation check for Norwegians confirmed that the experimental and control conditions differed in the predicted direction (experimental mean = 4.32, SD = 0.83; control mean = 3.48, SD = 0.92, $t = 6.07$, $p < 0.001$).

Table 3 summarises the findings for Study 1 in the Norwegian sample. First, in the top panel, the manipulation of company responsibility (x) interacts significantly with moral identity (w) to influence gratitude ($b = 0.25$, SE = 0.10, $t = 2.60$, $p < 0.01$, CI [0.06, 0.43]), as hypothesised. Next, as shown in the second panel, the manipulation (x) has a direct effect on benefit ($b = 0.24$, SE = 0.06, $t = 3.96$, $p < 0.001$, CI [0.12, 0.36]), as does gratitude ($b = 0.28$, SE = 0.06, $t = 5.13$, $p < 0.001$, CI [0.17, 0.39]), as predicted. Finally, in the third panel as proposed, it can be seen that benefit relates to decisions (y) to buy products from the company ($b = 0.62$, SE = 0.10, $t = 5.97$, $p < 0.001$, CI [0.41, 0.82]), as does gratitude ($b = 0.28$, SE = 0.08, $t = 3.57$, $p < 0.001$, CI [0.12, 0.43]).

A test of the conditional indirect effect of the manipulation (x) on purchase decisions (y) confirms the contingent effect of x on y , when moral identity (w) is low (effect = 0.05, SE = 0.02, CI [0.01, 0.10]), moderate (effect = 0.10, SE = 0.03, CI [0.04, 0.16]) and high (effect = 0.13, SE = 0.05, CI [0.06, 0.23]). The Index of Moderated Mediation is significant: index = 0.04, SE = 0.02, CI [0.01, 0.10]. Finally, because the direct effect of the manipulation (x) on purchase decisions (y) is not significant ($b = -0.11$, SE = 0.08, $t = -1.33$, $p = 0.18$, CI [-0.28, 0.05]), we may conclude that gratitude and benefit fully mediate the effects of x on y .

Figure 2a presents the conditional effect of moral identity on gratitude in the Norwegian sample, where it can be seen that, as moral identity increases, so too does gratitude for people exposed to information about the company acting responsibly to protect its workers in times of a health crisis. Moral identity has no effect on gratitude for people in the control condition.

TABLE 2 | Correlations, means and standard deviations for key variables.

	1	2	3	4	Means		Standard deviations	
					Positive	Control	Positive	Control
a. Sample 1 (Norway): Company acting well (positive actions below diagonal ^a , control condition above diagonal ^b)								
Gratitude	1.00	0.32	-0.03	0.34	3.57	2.47	0.89	1.03
Benefit	0.44	1.00	-0.18	0.61	3.66	2.87	0.79	0.64
Moral identity	0.38	0.40	1.00	-0.18	4.24	4.01	0.74	0.83
Purchase intention	0.51	0.44	0.32	1.00	3.49	2.91	0.97	1.13
$a_n = 81, b_n = 81$								
b. Sample 2 (Italy): Company acting well (positive actions below diagonal ^a , control condition above diagonal ^b)								
Gratitude	1.00	0.34	-0.03	0.56	3.78	2.87	1.03	0.89
Benefit	0.69	1.00	-0.07	0.56	3.99	3.27	0.78	0.59
Moral identity	0.46	0.28	1.00	0.03	3.78	3.87	0.78	0.71
Purchase intention	0.57	0.68	0.32	1.00	3.87	3.11	0.95	0.74
$a_n = 77, b_n = 79$								
c. Sample 3 (United States): Company acting well (positive actions below diagonal ^a , control condition above diagonal ^b)								
Gratitude	1.00	0.59	0.04	0.57	3.52	2.70	1.30	1.17
Benefit	0.48	1.00	0.06	0.77	3.97	3.33	0.92	0.72
Moral identity	0.36	0.29	1.00	0.04	3.90	4.02	0.92	0.86
Purchase intention	0.30	0.71	0.36	1.00	3.76	3.19	1.03	1.00
$a_n = 74, b_n = 82$								

3.2 | Study 2 (Italy)

3.2.1 | Participants and Procedure

Similar to Study 1, participants were randomly assigned to either a gratitude or control condition (see Appendix A). The sample consisted of 74 men (47%), 81 women (52%) and 1 other (<1%). Ages of respondents can be categorised inclusively as 8% between 20 and 25 years old, 24% between 26 and 35, 19% between 36 and 45, 20% between 46 and 55, 17% between 56 and 65, and 2% above 65. Concerning education, 58% had a high school education, 8% less than high school and 34% with an undergraduate degree or higher. From the original sample of 200, 44 participants responded either too quickly or provided the same numbered responses for most items and were removed ('straight-liners'). The final sample sizes by condition were 77 in the manipulation condition and 79 in the control condition.

3.2.2 | Results

As shown in Table 1, the two items measuring gratitude correlated $r=0.87$. Factor loadings for perceived benefits were between 0.80 and 0.86. The reliability for these items was 0.88. Factor loadings for moral identity were between 0.74 and 0.89. The reliability for these items was 0.90. The two items measuring purchase decisions correlated $r=0.84$.

3.2.3 | Manipulation Check

The same five-point scale was used for Italian respondents as for Norwegian respondents. The results of the manipulation check for Italians confirmed that the experimental and control conditions differed in the predicted directions (experimental mean = 4.27, SD = 0.91; control mean = 3.63, SD = 0.88, $t=4.46$, $p<0.001$).

Table 4 summarises the findings for Study 2 in the Italian sample. First, in the top panel, the manipulation of company responsibility (x) interacts significantly with moral identity (w) to influence gratitude ($b=0.32$, SE = 0.10, $t=3.28$, $p<0.01$, CI [0.13, 0.51]), as forecast. Next, as shown in the second panel, the manipulation (x) has a direct effect on benefit ($b=0.18$, SE = 0.05, $t=3.46$, $p<0.001$, CI [0.08, 0.28]), as does gratitude ($b=0.39$, SE = 0.05, $t=8.11$, $p<0.001$, CI [0.30, 0.49]), as hypothesised. Finally, in the third panel, it can be seen that benefit relates to purchase decisions (y) to buy products from the company ($b=0.57$, SE = 0.09, $t=6.64$, $p<0.001$, CI [0.40, 0.75]), as does gratitude ($b=0.27$, SE = 0.06, $t=4.32$, $p<0.001$, CI [0.15, 0.39]).

A test of the conditional indirect effect of the manipulation (x) on intentions (y) confirms the contingent effect of x on y , when moral identity (w) is low (effect = 0.05, SE = 0.02, CI [0.00, 0.10]), moderate (effect = 0.10, SE = 0.03, CI [0.06, 0.16]) and high (effect = 0.18, SE = 0.05, CI [0.05, 0.28]). The Index of Moderated Mediation is significant: index = 0.07, SE = 0.03, CI [0.02, 0.13].

TABLE 3 | Summary of findings for Process Model 83 in Sample 1 (Norway): Company doing well and moral identity as a moderator and gratitude and benefit as mediators of the effects of manipulated positive actions on action tendencies towards the company.

Independent variables	<i>b</i>	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Gratitude as mediator ($R^2=0.30$)						
Constant	2.99	0.07	40.24	0.00	2.85	3.14
<i>x</i> : manipulation	0.53	0.07	7.10	0.00	0.38	0.68
<i>w</i> : moral identity	0.21	0.10	2.26	0.03	0.03	0.40
$x \times w$	0.25	0.10	2.60	0.01	0.06	0.43
Benefit as mediator ($R^2=0.34$)						
Constant	2.41	0.17	13.81	0.00	2.07	2.76
<i>x</i> : manipulation	0.24	0.06	3.96	0.00	0.12	0.36
Gratitude	0.28	0.06	5.13	0.00	0.17	0.39
Purchase intention as dependent variable ($R^2=0.37$)						
Constant	0.35	0.34	1.03	0.30	-0.32	1.02
<i>x</i> : manipulation	-0.11	0.08	-1.33	0.18	-0.28	0.05
Gratitude	0.28	0.08	3.57	0.00	0.12	0.43
Benefit	0.62	0.10	5.97	0.00	0.41	0.82
Conditional indirect effect of <i>x</i> on intentions						
$x \rightarrow$ Gratitude \rightarrow Benefit \rightarrow Purchase decision						
Moral identity	Effect	Boot SE		Boot LLCI	Boot ULCI	
-0.93	0.05	0.02		0.01	0.10	
0.07	0.10	0.03		0.04	0.16	
0.87	0.13	0.05		0.06	0.23	
Index of moderated mediation						
	Index	Boot SE		Boot LLCI	Boot ULCI	
Moral identity	0.04	0.02		0.01	0.10	

Finally, because the direct effect of the manipulation (*x*) on intentions (*y*) is not significant ($b=0.05$, $SE=0.06$, $t=0.86$, $p=0.39$, $CI[-0.06, 0.16]$), we may conclude that gratitude and benefit fully mediate the effects of *x* on *y*.

Figure 2b presents the conditional effect of moral identity on gratitude in the Italian sample, where it can be seen that, as moral identity increases, so too does gratitude for people exposed to information about the company acting responsibly to protect its workers in times of a health crisis. Moral identity has no effect on gratitude for people in the control condition.

3.3 | Study 3 (United States)

3.3.1 | Participants and Procedure

As in Studies 1 and 2, participants were randomly assigned to either a gratitude or control condition for the United States sample (see Appendix A). The sample comprised 67 men (43%)

and 89 women (57%). Ages of respondents can be classified inclusively as 8% between 20 and 25 years old, 26% between 26 and 35, 26% between 36 and 45, 18% between 46 and 55, and 22% between 56 and 65. With regard to education, 36% had a high school education, 1% less than high school and 62% with an undergraduate degree or higher. From the original sample of 200, 44 participants responded either too quickly or provided the same numbered responses for most items and were removed ('straight-liners'). The final sample sizes by condition were 74 in the manipulation condition and 82 in the control condition.

3.3.2 | Results

Table 1 shows that the two items measuring gratitude correlated $r=0.89$. Factor loadings for perceived benefits were between 0.75 and 0.93. The reliability for these items was 0.87. Factor loadings for moral identity were between 0.77 and 0.83. The reliability for these items was 0.90. The two items measuring purchase decisions correlated $r=0.79$.

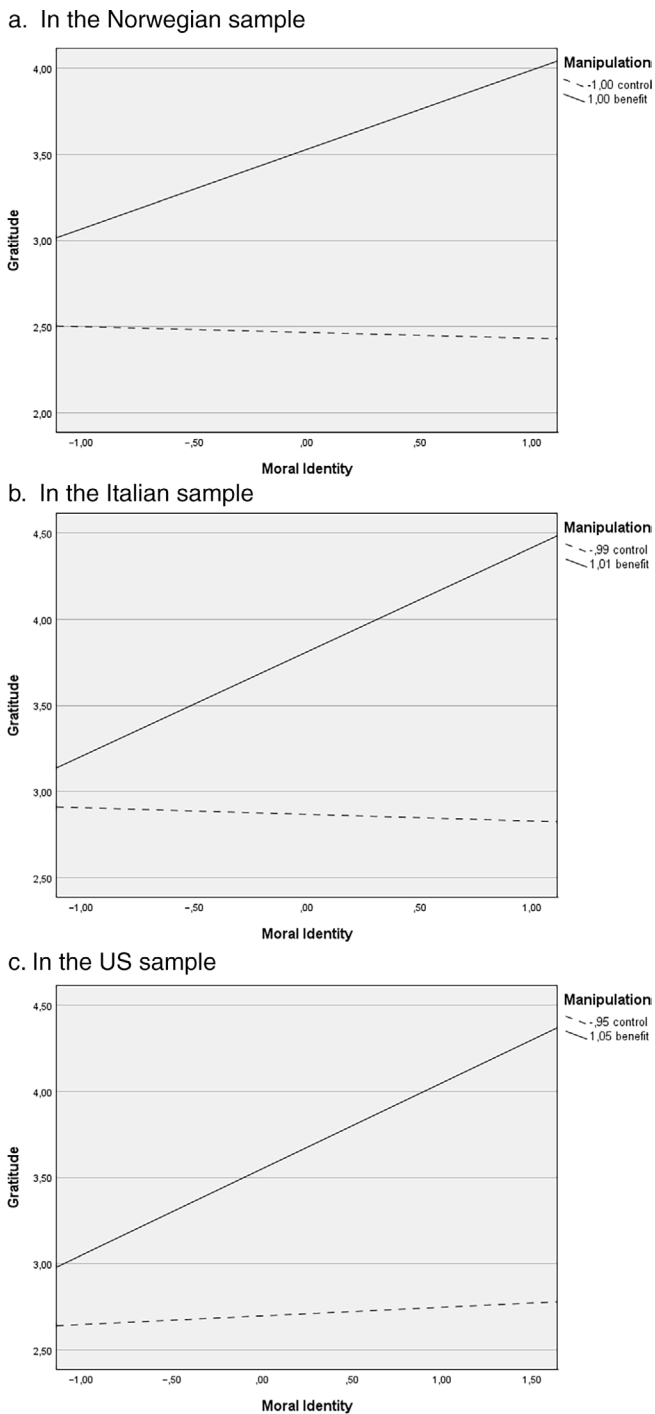


FIGURE 2 | Moderating effects of moral identity on gratitude.

3.3.3 | Manipulation Check

The same five-point scale was used for American respondents as for Norwegian respondents. The results of the manipulation check for Americans confirmed that the experimental and control conditions differed in the predicted directions (experimental mean = 4.26, $SD = 0.97$; control mean = 3.49, $SD = 0.95$, $t = 5.02$, $p < 0.001$).

Table 5 summarises the findings for Study 3 in the US sample. First, notice in the top panel that the manipulation of company responsibility (x) interacts significantly with moral identity (w)

to influence gratitude ($b = 0.23$, $SE = 0.11$, $t = 2.08$, $p < 0.05$, $CI [0.01, 0.44]$), as proposed. Next, as shown in the second panel, the manipulation (x) has a direct effect on benefit ($b = 0.17$, $SE = 0.06$, $t = 2.95$, $p < 0.01$, $CI [0.06, 0.29]$), as does gratitude ($b = 0.35$, $SE = 0.05$, $t = 7.68$, $p < 0.001$, $CI [0.26, 0.44]$), as hypothesised. Finally, in the third panel, it can be seen that benefit relates to purchase decisions (y) to buy products from the company ($b = 0.87$, $SE = 0.08$, $t = 10.86$, $p < 0.001$, $CI [0.71, 1.03]$), as forecast.

A test of the conditional indirect effect of the manipulation (x) on purchase decisions (y) confirms the contingent effect of x on y when moral identity (w) is moderate (effect = 0.15, $SE = 0.04$, $CI [0.08, 0.22]$) and high (effect = 0.20, $SE = 0.05$, $CI [0.10, 0.31]$). When moral identity (w) is low (effect = 0.06, $SE = 0.04$, $CI [-0.01, 0.16]$), the conditional indirect effect of x on y was not significant. The Index of Moderated Mediation is not significant: index = 0.07, $SE = 0.04$, $CI [-0.0008, 0.14]$. Finally, because the direct effect of the manipulation (x) on purchase decisions (y) is not significant ($b = -0.01$, $SE = 0.06$, $t = -0.17$, $p = 0.18$, $CI [-0.13, 0.11]$), we may conclude that the hostility triad and harm fully mediate the effects of x on y when moral identity is moderate and high.

Figure 2c presents the conditional effect of moral identity on the hostility triad, where it can be seen that, as moral identity increases, so too do the negative emotions in the hostility triad for people exposed to information about the company failing to protect its workers in times of a health crisis. Moral identity has no effect on the hostility triad for people in the control condition.

3.4 | Practical Significance

We examined the effect sizes of the moderation effects in each country because they provide indications of practical significance and do not depend on sample size. Cohen's f^2 is appropriate for tests of interaction in regression models (Selya et al. 2012). The three effect sizes for Norway, Italy and the United States were 0.04, 0.07 and 0.03, respectively, and are characterised as between small and medium under Cohen's (1988) framework.

4 | Discussion

In three experiments (Norway, Italy, United States), gratitude and felt benefits mediated the link between the cognitive template of benefits and action tendencies by observers to support a benevolent agent (Figure 1). The cognitive template of benefits reflects a synthesis identified by an intentional agent acting purposefully so as to enhance or augment a receptive actor, whereby an observer perceives the benefits and acts intuitively towards the benefactor (Gray et al. 2012; Schein and Gray 2018). The intuitive acts include felt gratitude regulated by moral identity, plus felt benefits experienced on a continuum. The particular action tendencies entail intentions and behavioural expectations in support of the benevolent agent.

The current study asserts and refines the role of norms in the TDM. The TDM implies that norms regulate the effects of

TABLE 4 | Summary of findings for Process Model 83 in Sample 2 (Italy): Company doing well and moral identity as a moderator and gratitude and benefit as mediators of the effects of manipulated positive actions on action tendencies towards the company.

Independent variables	<i>b</i>	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Gratitude as mediator ($R^2 = 0.28$)						
Constant	3.33	0.07	45.79	0.00	3.19	3.48
<i>x</i> : manipulation	0.47	0.07	6.45	0.00	0.33	0.61
<i>w</i> : moral identity	0.28	0.10	2.86	0.00	0.09	0.47
<i>x</i> × <i>w</i>	0.32	0.10	3.28	0.00	0.13	0.51
Benefit as mediator ($R^2 = 0.45$)						
Constant	2.31	0.17	13.77	0.00	1.98	2.65
<i>x</i> : manipulation	0.18	0.05	3.46	0.00	0.08	0.28
Gratitude	0.39	0.05	8.11	0.00	0.30	0.49
Purchase intention as dependent variable ($R^2 = 0.56$)						
Constant	0.51	0.27	1.90	0.06	−0.04	1.04
<i>x</i> : manipulation	0.05	0.06	0.86	0.39	−0.06	0.16
Gratitude	0.27	0.06	4.32	0.00	0.15	0.39
Benefit	0.57	0.09	6.64	0.00	0.40	0.75
Conditional indirect effect of <i>x</i> on intentions						
<i>x</i> → Gratitude → Benefit → Purchase decision						
Moral identity	Effect	Boot SE		Boot LLCI	Boot ULCI	
−0.83	0.05	0.02		0.00	0.10	
−0.03	0.10	0.03		0.06	0.16	
0.97	0.18	0.05		0.10	0.28	
Index of moderated mediation						
	Index	Boot SE		Boot LLCI	Boot ULCI	
Moral identity	0.07	0.03		0.02	0.13	

perceived positive actions on gratitude. However, until now, to our knowledge, the TDM has concentrated on the study of the effect of perceived moral harm on disgust and has not investigated the moderating role of norms (Schein and Gray 2018, 47).

Norms encompass a very broad range of standards and behaviour patterns regarding acceptable or unacceptable actions people take. These include beliefs, expectancies, rules or values concerning what people should do (prescriptive norms) and should not do (proscriptive norms) (Schein and Gray 2018). The TDM has scrutinised the violation of norms. In our study, by contrast, we examined the implications of norm compliance or the fulfilment of norms. Our particular concentration was upon moral identity, which we interpreted as a personality disposition formed by intrinsic moral commitments and developmental consistency (Blasi 1983, 1993, 2004).

Moral identity moderated the effect of perceived positive actions on gratitude. In Norway, Italy and the United States, as moral identity increased, gratitude expanded in response to perceived positive actions. Importantly, this happened for an

observer (a member of the public) of an exemplary agent (an organisation) benefiting another actor (an employee). Most research to date into gratitude has investigated the effects of a benefactor directly on a beneficiary (McCullough et al. 2001). Our study shows that moral discernment concerning laudatory behaviour of agents induces gratitude in observers for benefits accruing to beneficiaries other than the self. More research is needed into the mechanisms of such seemingly incidental effects of third-person positive acts on gratitude. We argued that the process is an instance of vicarious learning, accentuated by the relevance of moral identity (Bandura and Walters 1977; Nanay 2020). But we speculate that different forms of moral identity may govern the nature of observational learning such that variation in self-awareness of moral identity, felt attachment to one's moral identity, and such social aspects of moral identity as group-based self-esteem account for indirect effects of gratitude of the kind we observed (Ellemers et al. 2002).

We found that felt gratitude towards a benefactor of another person's welfare was related to judgements of benefits by an

TABLE 5 | Summary of findings for Process Model 83 in Sample 3 (United States): Company doing well and moral identity as a moderator and gratitude and benefit as mediators of the effects of manipulated positive moral emotions on action tendencies towards the company.

Independent variables	<i>b</i>	SE	<i>t</i>	<i>p</i>	LLCI	ULCI
Gratitude as mediator ($R^2=0.16$)						
Constant	3.10	0.10	32.30	0.00	2.91	3.29
<i>x</i> : manipulation	0.43	0.10	4.45	0.00	0.24	0.62
<i>w</i> : moral identity	0.27	0.11	2.44	0.02	0.05	0.48
<i>x</i> × <i>w</i>	0.23	0.11	2.08	0.04	0.01	0.44
Benefit as mediator ($R^2=0.37$)						
Constant	2.55	0.15	16.83	0.00	2.25	2.85
<i>x</i> : manipulation	0.17	0.06	2.95	0.00	0.06	0.29
Gratitude	0.35	0.05	7.68	0.00	0.26	0.44
Purchase intention as dependent variable ($R^2=0.58$)						
Constant	0.14	0.25	0.55	0.00	-0.36	0.64
<i>x</i> : manipulation	-0.01	0.06	-0.17	0.18	-0.13	0.11
Gratitude	0.05	0.05	0.99	0.18	-0.05	0.16
Benefit	0.87	0.08	10.86	0.00	0.71	1.03
Conditional indirect effect of <i>x</i> on intentions						
<i>x</i> → Gratitude → Benefit → Purchase decision						
Moral identity	Effect	Boot SE		Boot LLCI	Boot ULCI	
-0.96	0.06	0.04		-0.01	0.16	
0.24	0.15	0.04		0.08	0.22	
1.04	0.20	0.05		0.10	0.31	
Index of moderated mediation						
	Index	Boot SE		Boot LLCI	Boot ULCI	
Moral identity	0.07	0.04		-0.0008	0.14	

observer. The gratitude formed here is a kind of vicarious gratitude that deserves further investigation. It is similar to gratitude-as-appreciation (Lambert et al. 2009), which can be defined as ‘the tendency to notice and appreciate the positive in another person’s life’ (Howell et al. 2015, 690, emphasis omitted; see also Wood et al. 2010). The nature of reciprocity here is little understood and differs from research between benefactor and beneficiary (McCullough et al. 2001) and on upstream reciprocity where a person benefiting from another is generous towards someone else (Nowak and Roch 2007; also known as generalised reciprocity, Simpson et al. 2018). Related to the idea of vicarious gratitude is the question whether gratitude can function as a moderator. Here belief in reciprocity can be measured with the personal norm of reciprocity scale and used as a moderator (Perugini et al. 2003).

We tested moral identity as a type of felt norm (Schein and Gray 2018) expressed as a personality trait (Blasi 1984, 2004). But the role of moral identity as a social cognition would

be a fruitful direction for future research (Boegershausen et al. 2015).

Other norms deserve consideration as moderators of the perceived positive actions-to-gratitude relationship. The contingent experience of gratitude on perceived positive actions may be influenced by empathetic concern or compassion towards others which might better prepare one to feel gratitude towards a benefactor (Batson et al. 2015). Likewise, greater tendencies to engage in perspective taking should enhance stronger inclinations to experience gratitude in response to the praiseworthy actions of a benefactor (Dawson et al. 2023; Decety 2005).

Another conditional promoter of gratitude in political situations is political ideology. Bagozzi et al. (2023) found that political ideology moderated the effects of government acting responsibly during the COVID-19 pandemic on felt positive moral emotions. The investigation of the function of government perceived as a

benefactor in a moral sense by inducing felt gratitude represents a fruitful area for future research.

In the context of corporate ethical practices, social justice values (e.g., correcting social injustices, caring for the poor) have been shown to moderate the effects of the ethics of autonomy on positive moral emotions and attitudes (Xie et al. 2019). The study of the role of gratitude in regulating responses of consumers to socially responsible actions by corporations is an opportunity to study the role of perceived felt benefits, complementing our study.

We focused on gratitude as a moral motivator. It would be interesting to explore other positive moral emotions governing the activation of felt benefits from agents acting as benefactors. Plausible positive moral emotions for study in this regard include admiration, awe and elevation (Bagozzi et al. 2023; Haidt 2003). Similarly, when agents themselves react to good deeds they do or fail to do, self-conscious emotions might mediate the effects of these on moral judgements. Here pride, guilt, embarrassment and shame could be central emotions (Tangney et al. 2007).

One limitation of our study pointed out by an anonymous reviewer is that we did not investigate culturally specific differences between Norway, Italy and the United States and develop hypotheses as to their effects. We might expect that the greater emphasis on social welfare in Norway compared to the United States, for example, might affect positive moral emotions to different degrees. Future research could investigate differences in political orientation (e.g., conservative vs. liberal), trust in government, beliefs in economic systems (e.g., socialism vs. capitalism), and religious beliefs and commitments as they apply to positive moral emotions and evaluation of benefits related to good behaviour by government or organisations.

Finally, a direction for future research is the nature of benefits as mediators of reactions to agents performing morally responsible behaviours. We treated felt benefits as evaluations, which are analogous to attitudes towards objects or actions. But different kinds of benefits might be identified such that unique triggers of benefit-based responses can be evoked, and diverse and even contrasting effects of benefits and norms that elicit gratitude and other positive moral emotions could happen. For instance, benefits could exist in distinctive physical, psychological, economic and social forms that exhibit unique cognitive benefit schemas, sensitivity to fulfilment of benefits, magnitudes of moral emotion elicitation and action tendencies. It is possible that a kind of benefit reflected in the sense of being able to give, benevolent giving, can serve to promote well-being and lead to a kind of reciprocity. Weinstein and Ryan (2010) showed that this happens when needs for autonomy, competence and relatedness are satisfied.

Another limitation of our study that should be pointed out is that not all hypotheses can support causal conclusions (see Figure 1). Hypotheses H1 and H2 are robust in the sense that they are grounded in experimental manipulations. But H3 and H4 are downstream from the manipulations and are correlational inferences. Future research should directly manipulate gratitude to verify its causal impact on benefits, and directly manipulate benefits to verify their effects on action tendencies.

5 | Conclusion

The TDM has shown that harm plays a profound role in moral behaviour (e.g., Schein and Gray 2018). We demonstrated an analogous capacity for benefit to play a similar function. Not only does benefit mediate the effect of gratitude on morality, but it serves a nuanced purpose in functioning as a cognitive schema inducing the processes activating the felt benefit-based response itself. Our study has implications for understanding how norms in the TDM combine with moral cognition (e.g., moral identity) and shape perception of benefits and its effects.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available in OSF at https://osf.io/?view_only=b221b98d57864768a76221a28aac3863. These data were derived from the following resources available in the public domain: - OSF data repository, https://osf.io/bqvrn/?view_only=b221b98d57864768a76221a28aac3863.

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Appendix A

Experimental Scenarios

Introduction to company manipulation: We would like you to think as vividly as possible about a developing pandemic threat. A new, unknown virus that is similar to COVID-19 and SARS, but whose characteristics and evolution are not fully known, is spreading fast around

the world and has the possibility to develop into a global pandemic. The virus causes life-threatening respiratory problems and danger to vital organs and leads to a high mortality rate. The elderly and people with ongoing health challenges are especially vulnerable, but everyone is in danger of the health threat. Now we are going to provide a description of Triangle Corporation and its actions in this new situation. Take a moment to imagine as you read it, as vividly as possible, this company in your mind. Then answer the questions that follow as best you can. Please remember that we wish you to respond to the questions as they apply to the company itself as you interpret it, and not necessarily your belief in how the company could have acted differently from the description you read. We want your frank responses to the company and its actions.

A.1 | Company Acting Responsibly

Triangle Corporation, a large (country name) manufacturer of agricultural products and known as a low-cost producer, did much to mitigate the spread of the new virus and protect its workers. The company provided all supplies needed to protect employees such as masks and disinfectants, and required that everyone use them diligently. Government and industry guidelines for maintaining at least 2 yards (1 m) separation between employees were strictly enforced. Management advised employees to stay at home at the slightest onset of feeling ill. To reduce exposure to the virus, workload was shortened to 6 h per day for a new work week of 4 days in the foreseeable future. Triangle Corporation made extraordinary efforts to wash all surfaces that workers might touch each day before work began, and again at the work breaks in the middle of the work day. The leadership believed that the danger of infection from the new virus was a real concern, and it was the responsibility of the company and management to protect workers as a matter of top corporate policy. As a consequence, the company engaged in dedicated planning and training so as to implement a work environment that would be as safe and hygienic as possible. Worker welfare is a very important goal for the company indeed.

Introduction to the company neutral condition: We would like you to think as vividly as possible about a developing pandemic threat. A new, unknown virus that is similar to COVID-19 and SARS, but whose characteristics and evolution are not fully known, may be spreading fast around the world and has the possibility to develop into a global pandemic. The virus could cause respiratory problems. The elderly and people with ongoing health challenges may be vulnerable, but of course, the virus could spread to a larger population. Now we are going to provide a description of Triangle Corporation and its actions in this new situation. Take a moment to imagine, as you read it, as vividly as possible this company in your mind. Then answer the questions that follow as best you can. Please remember that we wish you to respond to the questions as they apply to the company itself as you interpret it, and not necessarily your belief in how the company could have acted differently from the description you read. We want your frank responses to the company and its actions.

A.2 | Neutral Condition for Company

Triangle Corporation, a large (country name) manufacturer of agricultural products, is known as a low-cost producer. The company has been in business for 44 years and is regarded as a nondescript manufacturer of average reputation in the business world and the local community. Business has been stable over the course of its existence. The company has a varied product line and makes various consumer-related products. It also manufactures supplies products for animal consumption. The company is considering increasing its overseas business. Its attention to new technologies is adequate. Sales have not varied much over the past few years. The value of the company has been steady over the past decade. The company is basically valued by employees as simply an adequate place to work and make a satisfactory living. Top management meets normal requirements for maintaining the welfare of the workforce. The company is currently reviewing its practices with respect to how to respond to viruses.

Appendix B

Data Collection Processes in Three Countries

The data collection processes in the three countries are described in more detail below.

1. United States

The survey was conducted electronically amongst respondents in a pre-recruited panel amongst 20–65 year olds by a professional research firm. The panel consists of approximately 842,000 panellists. Each panel member's identity is verified through multiple methods and the database is continuously examined for potential signs of fraud or cheating.

Respondents received an invitation email with a link to the survey. The final sample was arrived at after removing 126 participants responding either too quickly (speeders) or providing the same numbered responses for most items (straight-liners).

In this study, a quota-based setup was used, with quotas for gender, age and US Census Bureau designated regions (Northwest, Midwest, South and West) to ensure the best possible representativeness with regard to these. The quotas were based on official population statistics from the United States Census Bureau. The distribution of gender, age and region in the United States amongst those who responded is relatively similar to the actual distribution in the United States population.

2. Italy

This survey was conducted electronically amongst respondents in a pre-recruited web panel amongst 20–67 year olds by a professional research firm. The panel is a carefully composed population panel that counts a total of approximately 50,000 people, with an average response rate of 40%. The panel has strict routines for maintaining high quality and stable numbers of respondents.

Respondents received an invitation email with a link to the survey. The final sample was arrived at after removing 6 respondents who either responded abnormally quickly (speeders) or who had failed one attention check question.

In this study, a quota-based setup was used, with quotas of gender, age and regions (four regions in Italy). Quotas were divided equally in each subgroup.

3. Norway

The survey was conducted electronically amongst respondents in a pre-recruited panel amongst 20–70 year olds by a professional research firm. The panel is a carefully composed population panel that consists of approximately 97,000 panellists. The panel has strict routines for maintaining high quality and stable numbers of respondents.

Respondents received an invitation email with a link to the survey. To ensure the quality of responses, an algorithm was used to remove respondents who were responding abnormally quickly (speeders). Respondents who provided the same numbered responses for most items (straight-liners) were removed manually. Since straight-liners are often also speeders who answer too quickly, many straight-liners are removed automatically by the algorithm. The final sample was arrived at after manually removing three straight-liners.

A quota-based setup was used for this study, with quotas for gender, age and regions (11 regions in Norway) to ensure the best possible representativeness with regard to these. The quotas were based on official population statistics from Statistics Norway. The distribution of gender, age and region in the United States amongst those who responded is relatively similar to the actual distribution in the Norwegian population.