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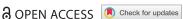
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# More important and surprising actions of a moral exemplar trigger stronger admiration and inspiration

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#### **ABSTRACT**

Admiring a moral role model has been found to inspire people to become better persons themselves. But what are the antecedents that trigger admiration and thus make inspiration more likely? In three studies, we tested the effect of perceived importance and perceived surprisingness of the moral action on resulting admiration and inspiration. Study 1 finds that perceived importance, and to a lesser extent, the perceived surprisingness of a moral action, are related to stronger admiration. Manipulating the perceived importance of the same moral action by only providing a little more detail about the moral action, could increase the admiration and inspiration the role models elicit (Studies 2 and 3). Our findings help the understanding of how moral exemplars trigger inspiration and provide valuable insights into further investigation toward the causes of admiration.

#### **ARTICLE HISTORY**

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#### **KEYWORDS**

Admiration; inspiration; moral elevation; role models; appraisals

Moral exemplars, like other role models, affect people in three key ways: They act as behavioral models that provide examples of how one could behave, they show what is possible, and they inspire (Morgenroth, Ryan, & Peters, 2015). We focus on this latter effect: How do moral exemplars affect inspiration? The key to this is that admiration leads to inspiration (Algoe & Haidt, 2009), to prosocial behavior (Schnall, Roper, & Fessler, 2010), and to an increased motivation to improve oneself (Schindler, Zink, Windrich, & Menninghaus, 2013; Van de Ven, 2017). Admiring moral role models is thus likely to have various positive outcomes. Yet it is not fully clear what the antecedents of admiration are. What aspects make it more likely that people feel admiration toward a moral exemplar? In the current work, we look at two possible factors that are expected to make the experienced admiration for a moral exemplar more intense: the perceived importance and the perceived surprisingness of her moral actions. Finding such antecedents is important not only when we try to understand the link between admiration and emulation, but also when we want to use moral exemplars in education to inspire pupils to become better persons (Engelen, Thomas, Archer, & Van de Ven, 2018; Kristjánsson, 2006).

Note that in this article we focus on admiration for moral exemplars. Some scholars argue that the emotion "admiration for skill" differs from admiration for moral actions, which is our focus here, calling the latter "admiration for virtue" (Immordino-Yang, McColl, Damasio, & Damasio, 2009) or "moral elevation" (Algoe & Haidt, 2009). We do not wish to enter the debate on whether admiration for skills and virtue are distinct emotions, subtypes of one emotion (admiration), or the same emotion in different domains. Rather, we make it clear here that we focus on admiration for a moral exemplar, and draw from the literature on admiration and moral elevation.

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In our studies, we report the effects of how stories about moral exemplars are told on the levels of admiration people feel for these exemplars, which in turn is expected to influence levels of inspiration. This follows the idea of well-established emotion theory (e.g., Frijda, 1988), namely that an appraisal of a situation leads to the emotional feeling of admiration, which in turn triggers action tendencies (inspiration to improve oneself). Emotion theorists such as Frijda state that action tendencies are an important part of the emotional experience: We feel an emotion because it triggers certain behavior that helps us deal with the situation at hand. We therefore measure both the feeling component (admiration) and the more motivational action tendencies (inspiration) and consider the former to trigger the latter. Although we conceptualize them (and measure them) as different aspects of the full emotional experience of admiration, if one zooms out on that experience these components are part of the same experience. This is, for example, how moral elevation has been operationalized, as both a feeling and motivation (Schnall et al., 2010). Our main analysis treats admiration as an antecedent feeling that triggers inspiration. As a robustness check of our results, we also add a measure typically used in the work on moral elevation to verify whether results are similar (as we expect them to be) if our measure combines the feeling and motivation component into one measure. This also helps us strengthen our contribution, as it uses a dependent variable that follows traditional emotion theory and that is often used in research on moral elevation.

#### The antecedents of admiration

So what do we already know about the antecedents of admiration for moral exemplars? First, such admiration is triggered by the perception of a moral action (Haidt, 2003). Yet it is not any moral action that triggers admiration: Holding a door for someone is virtuous, but it does not necessarily trigger admiration. Indeed, Algoe and Haidt (2009) indicate that not all moral virtues trigger admiration, but that moral excellence does (see also recent theoretical reviews by Onu, Kessler, & Smith, 2016; Thomson & Siegel, 2016). Yet, to the best of our knowledge, such antecedents have not yet been empirically tested. While we agree that the perception of moral excellence lies at the core of (moral) admiration and elevation, we think that there are more factors that contribute as antecedents to moral admiration.

We predict that two aspects of a moral action will make it more likely to be seen as excellent: It needs to be perceived as important and as out-of-the-ordinary (or in other words, surprising). With perceived importance we indicate evaluations (in this case, of an action) that are evaluated as being more significant, weighty, and/or valuable. First, situations that are more important and more relevant to an organism, are known to trigger more intense emotions (Frijda, 1988). Frijda argues that emotions exist because they help an organism cope with the situation, to avoid danger, or to approach opportunities. The more important the situation is to an individual, the stronger the emotional response is to make sure the organism responds to that situation. This is why we also predict that when moral actions are seen as being more important, the resulting admiration is likely to be more intense.

Second, surprise arises when a situation is unexpected or deviates from the "normal" schema (Meyer, Reisenzein, & Schützwohl, 1997). If this unexpectedness exceeds a certain threshold, surprise is felt, which focuses the attention on the surprising event. If exceeding a standard lies at the core of admiration, as Haidt (2000, 2003)) argued, then surprise (that has the deviation from a "normal" schema at its core), is likely to fuel admiration as well. We are not the first to point to the idea that importance and surprise are likely important antecedents of admiration. For example, Schindler et al. (2013) noted that dictionary definitions of admiration contain elements of surprise and wonder. The link between surprise and admiration can even be traced back to the work of philosopher Smith (1759/2007, I.i.4.3), who claims that "Approbation heightened by wonder and surprise, constitutes the sentiment which is properly called admiration." Similarly, Darwin (1872/ 1998, p. 269) claimed that admiration consists in "surprise associated with some pleasure and a sense



of approval." To the best of our knowledge, however, this idea has not been tested, which is what we aim to do here.

Finding the antecedents of admiration for moral exemplars is important, as it might help in designing interventions that can inspire people to become better persons. Much thought has been given to how moral exemplars can be used in moral education (Kristjánsson, 2006), and admiration plays an important role in this respect (see also Morgenroth et al., 2015; Schindler, Paech, & Löwenbrück, 2015). Admiration inspires people to emulate moral exemplars (Schindler et al., 2013) but also to think about their own goals and to set new ideals and targets (Blatz, Lange, & Crusius, 2016). In our work, we measure inspiration at a broad level, using a generic question on whether people feel inspired but that does not specify the more specific types of inspiration.

To summarize, our main idea is that perceived importance of and perceived surprise about the actions of a moral exemplar relate to stronger feelings of admiration, which in turn lead to more inspiration to become a better person. The specific hypotheses we have are thus:

H1: Actions of a moral exemplar that are perceived as more important will trigger more admiration, and therefore also more inspiration.

H2: Actions of a moral exemplar that are perceived as more surprising will trigger more admiration, and therefore also more inspiration.

We test these hypotheses in three studies. In all studies, we report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures (following the recommendations of Simmons, Nelson, & Simonsohn, 2011). All data and the appendices we refer to can be found at the Open Science Framework (OSF) at https://osf.io/nft78/.

# Study 1

In Study 1, we presented participants with one of eight different stories showcasing morally outstanding behavior. Stories varied from known cases such as Nelson Mandela's struggle for the end of apartheid that affected millions of people, to lesser known cases of morally outstanding behavior such as that of Ray Coe, a teacher who donated a kidney to a pupil. We expected that the more important the accomplishment was perceived to be and the more surprise people felt over it, the more they would admire the moral exemplar and as a result would be more inspired to become a better person themselves. We also measured how happy people felt when reading this story. This allowed us to test whether the effects on inspiration were indeed specific to admiration and not due to other positive affect (such as happiness), as past research found that feeling good can lead to prosocial behavior (e.g. Lyubomirsky, King, & Diener, 2005). By including happiness, we could test whether admiration has an effect independent of another positive feeling. Finally, moral admiration is very similar to the concept of moral elevation. As a robustness check for our results, we also added a measure of moral elevation (Schnall et al., 2010). This measure contains both the feeling (admiration) and motivation (inspiration) components of the experience of moral admiration, and we thus expect that perceived importance and perceived surprise over the moral action of the exemplar would also affect moral elevation.

#### Method

# **Participants**

Participants were recruited via mTurk. We aimed for 800 participants who were paid \$0.48 for a study expected to last 4 minutes. We had no prior expectations about effect sizes but wanted a large enough sample to possibly explore differences between stories and therefore chose 100 participants for each of the eight stories. Restrictions were set so we only had mTurk workers located in the



United States and in good standing (> 95% of prior work was accepted). Before analyzing the results of this study, we determined that reading the story and responding to the 17 questions within 30 seconds would be unfeasible. Nine participants did so and were left out of the analysis. We eventually had 793 participants, with 426 males and 365 females (2 classified themselves as 'other'),  $M_{\text{age}} = 37.26$  years, SD = 11.57, range 19 – 78.

# Procedure and design

Participants were randomly assigned to one of eight conditions, each displaying a different story of a moral exemplar (see Appendix A). Participants read one of the eight stories and then answered three sets of questions. First, they responded to the main questions of interest: perceived importance ("How important do you feel the main character's actions were?"), perceived surprise ("How surprising was the behavior of the main character to you?"), admiration ("I admire the main character of the story"), happiness ("When reading this story, I felt happy"), and inspiration ("I feel inspired when reading about this person"). As another dependent variable, we added a six-item measure of moral elevation (Schnall et al., 2010) that combines the feeling (admiration) and action tendency (inspiration to improve) of admiration into one measure of moral elevation. Items asked whether the participant felt moved, uplifted, optimistic about humanity, a warm feeling in their chest, that they wanted to help others, and that they wanted to become a better person themselves. These questions were combined into a single scale ( $\alpha = .95$ ). All questions were answered on a scale from 0 (not at all) to 6 (very much so). The order of these questions was randomized. Appendix B contains the exact question wording for all dependent variables.

#### Results and discussion

Table 1 contains the descriptive statistics and correlations across all stories combined.<sup>2</sup> For the main tests that use correlations, we standardized the variables for each story separately so we could combine the results of the stories for a total analysis. The correlations confirm that, across all stories, the more important participants thought the behavior of the moral exemplar was, the more they admired him/her, and the more inspired they were. The same held for surprise: The more surprising the behavior of the moral exemplar was, the more the behavior of the moral exemplar elicited admiration and inspiration.

The most important prediction we wanted to test is whether the expected antecedents of admiration (surprise and importance) had an effect on inspiration via admiration. We therefore tested this with a mediation analysis (across all stories) by means of the bootstrapping method of Preacher and Hayes (2004) using 10.000 samples and bias corrected intervals. Although the data is cross-sectional, we do think that mediation analysis makes sense, as the theoretical idea based on emotion theory (Frijda, 1988) is clear that the perception of the situation (importance, surprisingness) influences the affective response (admiration), which in turn influences action tendencies (inspiration). The model is presented in Figure 1. We added admiration, together with happiness that was found to correlate with inspiration, as well as possible mediators to look for the unique

		М	(SD)	2	3	4	5	6
1	Surprise	3.95	(1.60)	.22	.22	.23	.26	.20
2	Importance	5.13	(1.22)		.71	.55	.62	.36
3	Admiration	5.05	(1.32)			.66	.75	.41
4	Elevation	4.08	(1.46)				.78	.60
5	Inspiration	4.62	(1.55)					.49
6	Happiness	3.48	(1.98)					

Table 1. Correlations of main variables in Study 1, across all stories.

Note. All items measured on a scale from 0-6. All correlations p<.001. Correlations based on variables that were first standardized for each story separately to take out the story effects.

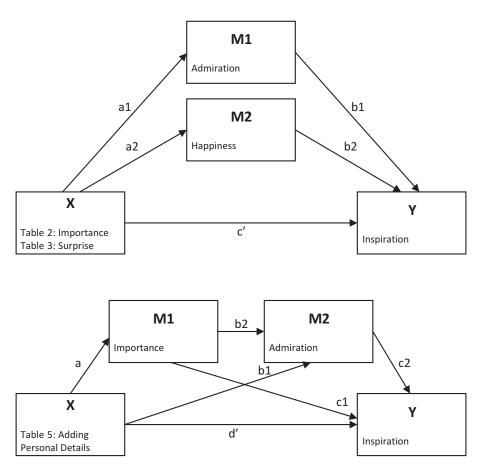


Figure 1. Mediation models tested in Tables 2 and 3 (top figure) and Table 5 (bottom figure).

effect of admiration. In the analysis of surprise, we control for perceived importance; in the analysis of perceived importance, we control for surprise. This allows us to get their independent effects on inspiration.

Table 2 contains the results for the effect of perceived importance of the moral behavior on inspiration. The direct effect is quite large ( $\beta$  = .59), and a very large part (65.8%) is explained by the indirect effect via admiration (and another 11.4% via happiness).

Table 3 contains the results of these analyses for perceived surprise. Although the direct effect of surprise on inspiration is not large ( $\beta$  = .13), it is clearly significant, and a sizeable part (29.0%) is explained by the indirect effect via admiration (and another 18.3% via happiness).

As a robustness check for the results that perceived importance and perceived surprisingness affected admiration and inspiration, we ran a regression analysis testing the effect of the perceived importance and perceived surprisingness on moral elevation. If perceived importance and surprise are jointly added as predictors of moral elevation, both have an independent effect: importance  $\beta = .52$ , t = 17.22, p < .001, surprise  $\beta = .11$ , t = 3.75, p < .001.

This first study clearly shows that when the action of a moral exemplar is seen as more important and as more surprising, this increases admiration. Importantly, it also increases subsequent inspiration to do better oneself. Although there seem to be some differences across the stories in how strong, for example, perceived surprisingness relates to admiration, we could not find a clear pattern that could explain possible differences (see Appendix Table 2 for the details). Our goal for the



Table 2. Mediation analyses for effect of perceived importance on inspiration via admiration and happiness in all studies.

			Study 1	Study 2	Study 3
Predictor	Criterion	Path	N = 793	N = 494	N = 968
X: Importance	M1: Admiration	a1	.69***	.74***	.75***
	M2: Happiness	a2	.33***	.49***	.69***
X: Importance	Y: Inspiration	c'	.13***	.21***	.03
M1: Admiration		b1	.56***	.34***	.33***
M2: Happiness		b2	.20***	.32***	.55***
Total effect Importance on Inspiration		C	.59***	.62***	.65***
Indirect effect via Admiration	Indirect effect	a1*b1	.39	.25	.25
	95%CI		(.3146)	(.1141)	(.1831)
	% of c-path explained		65.8%	40.8%	37.6%
Indirect effect via Happiness	Indirect effect	a2*b2	.07	.16	.38
	95%CI		(.0410)	(.1023)	(.3244)
	% of c-path explained		11.4%	25.0%	57.8%

*Note.* Analyses control for perceived surprise of the behavior of the moral exemplar. Analyses on standardized variables, values therefore reflect  $\beta$ 's.

Table 3. Mediation analyses for effect of surprise on inspiration via admiration and happiness in all studies.

			Study 1	Study 2	Study 3
Predictor	Criterion	Path	N = 793	N = 494	N = 968
X: Surprise	M1: Admiration	a1	.07**	.09**	.05*
	M2: Happiness	a2	.12***	.17***	.03
X: Surprise	Y: Inspiration	c'	.07**	.05†	.08***
M1: Admiration	•	b1	.56***	.34***	.33***
M2: Happiness		b2	.20***	.32***	.55***
Total effect Surprise on Inspiration		С	.13***	.14***	.11***
Indirect effect via Admiration	Indirect effect	a1*b1	.04	.03	.02
	95%CI		(.0107)	(.0106)	(.0003)
	% of c-path explained		29.0%	21.6%	15.5%
Indirect effect via Happiness	Indirect effect	a2*b2	.02	.05	.02
	95%CI		(.0104)	(.0310)	(0104)
	% of c-path explained		18.3%	38.7%	14.3%

*Note.* Analyses control for perceived importance of the behavior of the moral exemplar. Analyses on standardized variables, values therefore reflect  $\beta$ 's. Figure 1 contains a model depicting the paths.

following studies is first to test whether we can (1) replicate the main finding and (2) use these insights to manipulate stories so as to increase the possible inspiration the stories elicit in those reading them. We will focus on perceived importance, as it has the largest effect and because our attempts to manipulate perceived surprise in two more studies did not succeed.<sup>3</sup>

# Study 2

In Study 2, we tested whether adding more personal details about the moral exemplar and the beneficiary of the actions might increase the perceived importance, and thereby increase admiration and inspiration. There were several reasons why we expected this to influence perceived importance. The first reason is the identifiable victim effect, which refers to people's tendency to be more willing to offer help to specific, identifiable victims than to anonymous, statistical victims. This effect was identified by Schelling (1968) and is supported by a range of empirical studies (e.g. Jenni & Loewenstein, 1997; Small, Loewenstein, & Slovic, 2007), including a recent meta-analysis (Lee & Feeley, 2016). This gave us reason to think that adding details about those who were benefitting from the exemplar's actions would increase how important these acts were perceived to be. The second reason is the identified intervention effect (Cryder, Loewenstein, & Scheines, 2013; Slovic, 2007). We anticipated that when the actions and their beneficial consequences were made more vivid in this

way they would be viewed as more important by participants. We anticipated that adding tangible details about the exemplar would also make the information about their actions more vivid and, as a result, increase how important these actions were viewed by participants. In addition, we thought that adding this information might also make participants more aware of the difficulties involved in performing these actions, which could also increase their perceived importance. In line with these motivations, we included details about the beneficiary and the exemplar, which we anticipated would make each more identifiable without altering the nature of the moral action, which remained the same across the different conditions.

#### Method

#### **Participants**

Participants were recruited via mTurk. Given the effects found before, we aimed for 500 participants in a  $2 \times 2$  design. We did not expect an interaction, only two main effects and 250 participants per condition in those comparisons seemed sufficient (this would give us close to 80% power to detect an effect with d > 0.35). Participants were paid \$0.36 for a study expected to last 3 minutes. Restrictions were set so we only had workers in good standing (>95% of prior work was accepted) and only had workers from the U.S. Like in Study 1, we dropped those that read and responded to the 17 questions within 30 seconds (7 out of 501 participants). We eventually had 494 participants, with 245 males and 248 females (1 classified as "other"),  $M_{\rm age} = 36.14$  years, SD = 11.43, range 18 - 73.

## Design

Participants were randomly assigned to one of four conditions of a  $2 \times 2$  design. We used the story also used in Study 1 of Ray Coe, who donated a kidney to his student. We chose this study as it allowed us to relatively easily add or remove the personal details about the beneficiary and the moral exemplar. More specifically, we varied whether personal information about the moral exemplar, like ray Coe's age, the school he worked at, a detailed response on what he said when the request for help came, and a final reflection of Ray Coe on the entire ordeal were all present or not. In the personal information condition about the hero, we also added a picture of Ray Coe.

The second manipulation varied whether or not it included personal details about the beneficiary of the behavior of the moral exemplar; the pupil was Alya Faatma. We varied whether the story contained her personal response to the help of Ray Coe, some family background, and a final reflection of Alya Faatma on the whole ordeal, or whether these were left out. We also added a picture of her in the condition that contained personal information about the beneficiary. For the exact materials, see Appendix C.

Participants read one of the four possible versions of the moral exemplar story and then answered the same questions as in Study 1 (on perceived importance, surprisingness, admiration, inspiration, moral elevation ( $\alpha = .94$ ) and happiness).

#### Results and discussion

The descriptive statistics and correlations between variables can be found in Table 4. The most important test is a  $2 \times 2$  ANOVA, which tests the effect of adding personal information about the moral exemplar (yes/no) and the beneficiary (yes/no) on admiration and elevation. Adding the details about the moral exemplar increased perceived importance, as well as admiration and inspiration (see Table 4). Note that adding personal details about the beneficiary did not affect any of our variables, all F's(1, 490)  $\leq$  1.05, p's  $\geq$  .306,  $\eta_p^2 \leq$  .002, nor were there any interactions with whether the personal details about the moral exemplar were added or not, Fs(1, 490)  $\leq$  1.05, p's  $\geq .306$ ,  $\eta_p^2 \leq .002$ .

We also confirmed the model that the manipulation that added personal details about the moral exemplar increased perceived importance of his actions, which affected admiration, which in turn

**Table 4.** Effect of the presence of personal details of the moral exemplar on importance, surprise, admiration, elevation, and inspiration in Study 2.

		P	ersonal Det Exer	tails of Mo	oral								
		No Yes				Statistics			C	orrelatio	ns		
		М	(SD)	М	(SD)	F	р	$\eta_p^2$	2	3	4	5	6
1	Surprise	4.46	(1.41)	4.43	(1.40)	0.03	.854	.000	.33	.33	.32	.34	.33
2	Importance	5.37	(1.18)	5.57	(0.83)	4.68	.031	.009		.77	.61	.67	.55
3	Admiration	5.32	(1.21)	5.52	(0.94)	4.13	.043	.008			.69	.71	.60
4	Elevation	4.55	(1.35)	4.85	(1.14)	7.19	.008	.014				.82	.73
5	Inspiration	4.95	(1.46)	5.23	(1.11)	5.56	.019	.011					.65
6	Happiness	4.75	(1.51)	4.91	(1.40)	1.59	.208	.003					

*Note.* Analyses when controlling for whether personal details about the beneficiary were added (which had no main effects nor interaction effects with the manipulation of adding details of the moral exemplar, F's(1,490)  $\leq$  1.05, p's  $\geq$  .306). All correlations significant at p < .001.

**Table 5.** Sequential mediation analyses for effect of the manipulation on perceived importance, admiration, on inspiration in Studies 2 and 3.

			Study 2	Study 3
Predictor	Criterion	Path	N = 494	N = 968
X: Condition	M1: Importance	a	.20*	.17**
X: Condition	M2: Admiration	b1	.04	.01
M1: Importance		b2	.74***	.75***
X: Condition	Y: Inspiration	ď	.08	.06
M1: Importance		c1	.27***	.18***
M2: Admiration		c2	.47***	.62***
Total effect Condition on Inspiration		d	.22*	.18**
Sequential indirect effect via Importance and then Admiration	Indirect effect	a*b2*c2	.07	.08
	95%CI		(.0114)	(.0214)
	% of d-path explained		31.8%	43.6%
Indirect effect via Importance	Indirect effect	a*c1	.05	.03
	95%CI		(.0013)	(.0107)
	% of d-path explained		24.6%	17.3%
Indirect effect via Admiration	Indirect effect	b1*c2	.02	.01
	95%CI		(0407)	(0406)
	% of d-path explained		8.7%	4.4%

Note. Analyses control for perceived surprise of the behavior of the moral exemplar. For Study 2 we report the effect of the manipulation of adding details about the moral exemplar (while controlling for the manipulation of adding details about the beneficiary). For Study 3 this is the other way around. Analyses on standardized variables, so values therefore reflect β's. Figure 2 contains a model depicting the paths.

affected inspiration (see Table 5, and Figure 1 for the model). This sequential indirect effect (.07, 95%CI .01 to .14) existed, next to an indirect effect of the manipulation on inspiration only via perceived importance (.05, 95%CI .00 to .13). The indirect effect of the manipulation via admiration on inspiration was not significant when also taking the sequential effect, including perceived importance, into account, confirming the role of perceived importance (.02, 95%CI -.04 to .07).

To test the basic effect, we also again tested the mediation solely based on the measured variables across all conditions. Table 2 contains the results of these analyses for the effect of perceived importance of the moral behavior on inspiration and also replicates the earlier findings. The direct effect is again large ( $\beta$  = .62), and a sizable part (40.8%) is explained by the indirect effect via admiration (and another 25.0% via happiness).

Table 3 contains the results of these analyses for perceived surprise. The direct effect of surprise on inspiration was again not large but significant ( $\beta$  = .14). There were indirect effects via admiration (explaining 21.6% of the direct effect) and happiness (explaining another 38.7%), replicating our previous findings.

As a robustness check we tested the effect of the manipulation with moral elevation as the dependent variable. Surprise was related to moral elevation ( $\beta = .14$ , t = 3.74, p < .001), as was perceived importance ( $\beta$  = .58, t = 14.77, p < .001). There was a direct effect of the manipulation on elevation ( $\beta = .24$ , p = .008), and this was reduced ( $\beta = .13$ , p = .058) when the indirect effect via perceived importance ( $\beta$  = .11, 95%CI .02 to .21) is taken into account. Surprise did not mediate the effect of the manipulation on moral elevation, as surprise was not influenced by the manipulation.

We tested whether adding personal details about the moral exemplar and about someone benefiting from the moral action increased the perceived importance of the moral action, and thereby subsequent admiration and inspiration. We indeed found that adding personal details about the moral exemplar affected perceived importance but found no such effects for adding personal details about the beneficiary. Key to our hypotheses is that manipulating perceived importance should also increase admiration and subsequent inspiration, which was confirmed. We also found that, next to an effect via admiration, there is also an effect via happiness. We also replicated the previous correlational findings on the effect of surprise over the moral action on inspiration via admiration.

# Study 3

In Study 3, we aimed to replicate the findings of Study 2. We used another story from Study 1 (about a moral exemplar donating more than half his wealth to good causes), but this time added additional information to see if we could increase perceived importance, and thereby, admiration and inspiration.

## Method

#### **Participants**

Participants were recruited via mTurk. The effect in Study 2 of surprise was again not very large, so just to be sure we aimed for 1000 participants again distributed over the cells of a 2 × 2 design and eventually had 999 participants. The stories were a bit longer, so participants were paid \$0.48 for a study expected to last 4 minutes. Restrictions were set so we only had workers in good standing (> 95% of prior work was accepted) and only had workers from the United States. Like in past studies, we did not include the participants that read and responded to the questions within 30 seconds (30 out of 999 participants). We therefore eventually had 969 participants, with 512 males and 477 females (2 classified as 'other'),  $M_{\rm age} = 36.52$  years, SD = 11.57, range 18 - 75.

#### Design

Participants were randomly assigned to one of four conditions of a  $2 \times 2$  design. We used the story also used in Study 1 of someone who donated half his wealth to those who need it more. Compared to the original story, we added more personal details about the moral exemplar (as found on their Web site: age, where they lived, some family background) or we did not do so. Furthermore, we also mentioned an example of a good cause the moral exemplar donated to: The Against Malaria Foundation. We explained how this foundation contributed to preventing malaria but manipulated whether we added a personal story to it of someone who benefitted (based on information obtained from the website of the foundation; how someone in Botswana received mosquito nets and how this benefited her family). For the exact materials, see Appendix D. Participants read one of the four possible versions, and then answered the same questions as used before (on perceived importance, surprisingness, admiration, inspiration, moral elevation ( $\alpha = .95$ ), and happiness).<sup>5</sup>

Table 6. Effect of the presence of details of the beneficiary on importance, surprise, admiration, elevation, and inspiration in Study 3.

			Details of	Beneficia	ry								
		No		Yes		Statistics			Correlations				
		М	(SD)	М	(SD)	F	р	$\eta_p^2$	2	3	4	5	6
1	Surprise	4.26	(1.54)	4.20	(1.57)	0.38	.540	.000	.21	.21	.24	.25	.17
2	Importance	4.82	(1.31)	5.02	(1.16)	6.61	.010	.007		.76	.66	.68	.70
3	Admiration	4.78	(1.37)	4.96	(1.30)	4.39	.036	.005			.73	.78	.76
4	Elevation	3.99	(1.52)	4.32	(1.46)	11.75	.001	.012				.85	.80
5	Inspiration	4.29	(1.59)	4.56	(1.53)	7.41	.007	.008					.83
6	Happiness	4.54	(1.48)	4.76	(1.37)	5.77	.016	.006					

Note. Analyses when controlling for whether we added personal details about the moral exemplar (which had no main effects nor interaction effects with the manipulation of adding details about the beneficiary,  $F's(1,967) \le 2.87$ ,  $p's \ge .091$ ). All correlations significant at p < .001.

#### Results and discussion

The descriptive statistics across conditions and correlations between variables can be found in Table 6. The most important test is a 2 × 2 ANOVA, that tests the effect of adding personal information about the moral exemplar (yes/no) and the beneficiary (yes/no) on admiration and elevation. Whereas in Study 2 we found an effect of adding personal details of the moral exemplar, we did not find an effect here on any of our variables,  $F's(1,967) \le 2.87$ ,  $p's \ge .091$ . However, as Table 6 shows, we did find clear effects of adding details about the beneficiary this time. Adding those details increased perceived importance, admiration, moral elevation, inspiration, and happiness for participants reading the story about the moral exemplar.<sup>6</sup>

We also confirmed the model that adding details about the beneficiary increased perceived importance of his actions, which affected admiration, which in turn affected inspiration (see Table 5). This sequential indirect effect (.08, 95%CI .02 to .14) existed, next to an indirect effect of the manipulation on inspiration only via perceived importance (.03, 95%CI .01 to .06). The indirect effect of the manipulation via admiration on inspiration was not significant (.01, 95%CI -.05 to .06) when taking the full path including the effect of perceived importance on admiration into account.

To test the basic effect across all conditions we again conducted mediation analyses with those variables. Table 2 contains the results for the effect of perceived importance of the moral behavior on inspiration, and also replicates the earlier findings. The direct effect is again large ( $\beta$  = .65), fully explained by the joint indirect effects of admiration (37.6%) and happiness (57.8%).

Table 3 contains the results of these analyses for perceived surprise. The direct effect of surprise on inspiration was again not large ( $\beta = .11$ ) but significant. There were indirect effects of surprise on inspiration via admiration (explaining 15.5% of the direct effect) and happiness (explaining another 14.3%), replicating our previous findings.

As a robustness check, we tested the effect of the manipulation with moral elevation as the main dependent variable. Both surprise ( $\beta = .11$ , t = 4.45, p < .001) and perceived importance ( $\beta = .64$ , t = 25.94, p < .001) increased moral elevation. Furthermore, we found that the direct effect of the manipulation on elevation ( $\beta$  = .22, p < .001) was reduced (to  $\beta$  = .12, p = .013) when the indirect effect via perceived importance ( $\beta$  = .10, 95%CI .02 to .18) is taken into account. Perceived surprise did not mediate the effect of the manipulation on moral elevation, as it was not influenced by the manipulation (see Table 6).

# Summary of results

Although not all our manipulations had the expected effect, the key finding is that we consistently find that perceived importance affects admiration, inspiration, and moral elevation; and that if the manipulations increased importance, they also increased these resulting feelings. We conducted a meta-analysis across the studies presented here, as well as two other studies we report in Appendix E,



and indeed confirm that perceived importance relates to admiration (r = .72, 95%CI .67-.77), inspiration (r = .64, 95%CI .56–.70), and moral elevation (r = .59, 95%CI .52–.67). We find similar, but less strong effects for surprise, as it relates to admiration (r = .25, 95%CI .18-.30), inspiration (r = .25, 95%CI.20-.31), and moral elevation (r = .24, 95%CI.18-.29). Note that for each of these meta-analyses, the tests of hetereogeneity are significant (Q's(11)  $\geq$  20.35, p's  $\leq$  .041). This suggests that there are likely moderators that determine the strength of the relationships, something later studies might be able to look into.

#### General discussion

Across all of our studies we consistently found that perceived importance of the moral action of a moral exemplar was positively related to admiration and inspiration. Based on emotion theory, we formulated the hypothesis that a moral action that was perceived as more important would trigger more admiration, which in turn would lead to more inspiration. We found this pattern in a mediation analysis in all three studies, but also found that manipulating perceived importance in Studies 2 and 3 increased admiration and subsequent inspiration. As a robustness check, we replaced our measures of admiration and inspiration with a well-validated multiple item measure of moral elevation (which includes both the feeling and motivation component) and found the same results in all studies.

Although we found clear support for the theoretical idea that perceived importance affects admiration and inspiration, not all our manipulations intended to increase perceived importance actually did so, and we come back to this later in the discussion. Nevertheless, our findings confirm that 1) admiration for moral exemplars plays a large role in inspiring people, and 2) that the more one is able to stress the importance of the behavior of the moral exemplar, the stronger this admiration is.

Following Darwin (1872/1998) and Smith (1759/2007), we also expected that the more surprising an action of a moral exemplar was, the more it would trigger admiration (and subsequent inspiration). Although the effect was clearly smaller than that of perceived importance, we did confirm across our studies that perceived surprise affected inspiration via admiration (finding significant mediation in all three studies). The same finding held in our robustness check that used moral elevation as the dependent measure. However, none of our attempts to manipulate perceived surprise (see Appendix E that describe the two studies on this) actually succeeded in increasing perceived surprise. This makes interpreting this relationship more difficult, as the causality is more difficult to determine without successful manipulations. We think the theoretical model, based on emotion theory, makes our hypothesis (more surprise leads to more admiration) the most plausible one, but the results should be seen as preliminary. Perhaps more importantly, if we could not manipulate the perceived surprisingness of the behavior of the moral exemplar, actually using this insight, for example, to increase inspiration by role models will be difficult.

# Theoretical and practical contribution

Although the emotion of admiration is receiving more attention in recent psychological literature, the antecedents have not been empirically studied. To the best of our knowledge, only Van de Ven, Zeelenberg, and Pieters (2012) have added admiration as a control condition in a study on the appraisals of envy, and the antecedents studied were not specifically relevant to admiration. The current studies empirically find that perceived importance is a powerful antecedent of admiration, and that role models inspire people the most when their actions are perceived to be more important. This confirms the theoretical ideas of, for example, Schindler et al. (2013) that had not been empirically tested yet. The role of surprise remains somewhat speculative, but given that wonder or a sense of amazement is thought to be part of what admiration is (e.g., Algoe & Haidt, 2009;



Schindler et al., 2013), our current findings seem to provide preliminary support for the idea that surprise plays a role.

Our findings have a clear practical implication for those who use role models in moral education. A key question in using role models in moral education is how best to frame or present the story, so as to have maximum impact. Should one present the moral exemplar almost as a saint that only does good? Or should one show the doubt and difficulties moral exemplars face? For us, our findings point to one clear direction: the importance of the actions should be stressed. Although this might already feel intuitive, this is not necessarily always done. When people talk about their own good accomplishments, they often downplay their role. One example of this is the commonly observed phenomenon of people who perform acts that seem to go beyond the call of duty, who claim that they were simply doing what they were required to do (Archer and Ridge 2015). Consider, for example, the case of John Weidner, an agent for the Dutch resistance in The Second World War who helped Jews escape from the Gestapo. When asked whether he thought he had performed an extraordinary good deed, Weidner answered: "No. Absolutely not. I did my duty. That is all." (Monroe, 2004, p. 117). Such statements are common in the literature examining holocaust rescuers (see Fogelman, 1994; Gilbert, 2003). There are several explanations that might be given for this phenomenon. People may be motivated by modesty and a wish not to appear arrogant or bragging (e.g., Exline & Lobel, 1999). Alternatively, they may identify so closely with their moral values that they simply fail to recognize the exceptional nature of their actions (Colby & Damon, 1992).

Whatever the reason for this phenomenon of downplaying moral actions, our findings suggest that it may not always be the most productive approach. In downplaying their role, the morally exceptional might also inadvertently downplay the importance of their accomplishments or downplay the importance of the part they played in the whole circumstances. If Nelson Mandela points to all the other people who contributed to ending apartheid in South-Africa, he might also reduce the perceived importance of his actions. Our findings suggest that this may have a negative effect on admiration and inspiration (although this negative effect on inspiration might be attenuated by other positive effects, such as showing that taking small steps also help). Yet, at the same time, this downplaying might actually help if done in a specific way: namely, by increasing the feasibility of the action. If one downplays the difficulty of the behavior, but not the importance, the moral action might actually appear more feasible. Locke and Laham (2006) argue that with greater self-efficacy (seeing a goal as a feasible goal for oneself), people are more motivated to reach such a goal. Perhaps the downplaying of the difficulty of the accomplishment (but not the important consequences) could still trigger stronger inspiration, as it might increase the feasibility.

An interesting and unexpected finding in our studies was the role happiness played in inspiration as well. In all our studies, we found that besides admiration, happiness was also an important predictor of inspiration. This leads to the prediction that stories of moral exemplars that trigger more happiness (or perhaps general positive affect) also inspire more. Past research has indeed often demonstrated that happiness triggers more prosocial behavior (Aknin, Dunn, & Norton, 2012; Lyubomirsky et al., 2005). We also know under what circumstances a positive mood is most likely to lead to helping behavior, and given that we now find that moral exemplars trigger such more general positive feelings as well, we can also make new predictions about when moral exemplars are most likely to increase prosocial behavior. For example, based on a review of the literature by Carlson, Charlin, and Miller (1988), we can predict that moral exemplars might trigger more strong positive affect (and thus increase helping behavior) when the story about the moral exemplar makes the person reading it become more self-aware, when they do not experience much guilt themselves, and when the behavior of the moral exemplar contains interactions with other people, as that provides an example that the community is a cooperative collective.

# Limitations and questions

A limitation is that we did not always find effects of all our manipulations of perceived importance. In Study 2 and 3, we had expected that adding details about the moral exemplar and about the beneficiary of the moral action would increase perceived importance. However, in Study 2 we only found an effect of the first manipulation; in Study 3 we only found an effect of the second. The pattern of results confirms our theoretical predictions, but finding a manipulation that actually does so consistently remains somewhat elusive.

One possible suggestion for future research is based on the exact nature, understanding, and measure of "perceived importance." The question we asked to respondents in the three studies was quite broad: "How important do you feel the main character's actions were?" This leaves open several different interpretations. One is "personal relevance," the extent to which the action described connects to the respondent's own goals and values. This was our primary focus and why we connected importance to emotion theory: If I see someone doing something that I feel is valuable (according to my own lights), I will deem it important, admire that person, and be moved accordingly. However, importance as it figures in our survey can also be understood in relation to (1) the moral exemplar (it is important for him/her to do this); (2) the beneficiary (it is important to be benefited in this way); or even (3) the community (it is in line with broadly shared values and ideals). The fact that importance can be understood not so much as "personal relevance" but rather as "normative significance" (see also Scherer, 2001, who distinguishes between an initial appraisal of relevance and the following appraisal of the possible impact), may partially explain why providing more details about the moral exemplar worked only in Study 2 and providing more details about the beneficiary worked only in Study 3. Future research could try to manipulate these different understandings of importance to see which turns out to be most important as a trigger of admiration.<sup>8</sup>

Although we focus on admiration for moral exemplars, also dubbed admiration for virtue (Immordino-Yang & Sylvan, 2010) or moral elevation (Haidt, 2003), we actually think the antecedents we studied here are likely to be antecedents of general admiration as well (after all, our predictions are based on amongst other the work of Schindler et al., 2013, who studied admiration).

## Conclusion

In three studies, we find that the more important someone perceived the actions of a moral exemplar to be, the more they admired the exemplar and the more inspired they became to improve themselves. We found a similar pattern for perceived surprisingness of the moral action, but note that here the manipulations did not work, so we need to be more careful in making a strong causal claim here. Furthermore, we also found that, next to the effect of admiration on inspiration, stories that elicited more positive affect (in the form of happiness) also triggered more inspiration.

#### **Notes**

- 1. In Study 1 and 2 we had also added the other basic emotions (aside from surprise and happiness) that were identified by Ekman (1992); participants also indicated whether they felt sadness, anger, disgust, and fear. We did not find any effects there, but researchers interested in exploring that data can also find it at link to the OSF mentioned in the final paragraph of the introduction.
- 2. In the appendix, we also added two tables (Appendix Tables 1 and 2), with the results for each story separately. Although the general pattern is the same for each story, there do seem to be situations in which the correlation between surprise/importance and admiration is stronger than for others. Although we could not see a clear pattern in these differences, future research might explore what causes these differences.
- 3. Although these two studies did not succeed in manipulating perceived surprise by adding some information to stories of moral exemplar that we expected to trigger more surprise, these studies did replicate the general pattern that stronger perceived surprise over the actions of a moral example increased admiration and subsequent inspiration. Details on these studies can be found in Appendix E, and the Appendix Table 5-7. Furthermore, of note is that in one of these studies the manipulation designed to elicit more surprise did not do



so, but did affect perceived importance. We then also replicated the findings of Studies 2 and 3 that an increased importance caused by the manipulation led to greater admiration and inspiration (see Appendix Table 8 for the results).

- 4. For ease of presentation, we collapse the results in Table 4 across the manipulation that added information about the beneficiary or not (as there was no effect of that manipulation). The Appendix Table 3 contains the descriptive statistics for those manipulations separately as well.
- 5. We also added a question on perceived warmth and competence for exploratory purposes. For those interested, the data can be found via the OSF via the link in the final paragraph of the introduction.
- 6. For ease of presentation, we collapse the results in Table 6 across the manipulation that added information about the moral exemplar or not (as there was no effect of that manipulation). The Appendix Table 4 contains the descriptive statistics for those manipulations separately as well.
- 7. Figures displaying these meta-analytic results can be found in Appendix F.
- 8. We thank an anonymous reviewer of this journal for his or her valuable comments and suggestions on these points.

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# Data availability statement

The data described in this article are openly available in the Open Science Framework at https://osf.io/nft78/

# **Open Scholarship**





This article has earned the Center for Open science badges for Open Data and Open Materials through Open Practices Disclosure. The data and materials are openly accessible at https://osf.io/nft78/

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