

BRIEF ARTICLE

## Envy and admiration: emotion and motivation following upward social comparison

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### ABSTRACT

Two key emotions people can experience when someone else is better than them are envy and admiration. There are conflicting findings in the scientific literature on which behaviour is elicited by these emotions. In one study (with two samples, total  $N = 345$ ), we test which motivations are triggered by envy and admiration. The main finding is that (benign) envy and admiration both lead to a motivation to improve oneself. This confirms earlier findings that admiration leads to a motivation to affiliate with the admired other and a motivation to improve one's own position. Furthermore, it supports the idea that envy can lead to both a motivation to improve oneself and a motivation to pull down the envied other, finding support for a subtypes theory of envy.

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Two key emotions people can experience when someone else is better than them are envy and admiration. In this research project, we test the action tendencies associated with these emotions. Emotions serve a valuable function as they motivate actions aimed at solving problems or dealing with opportunities (Keltner & Gross, 1999). There are conflicting perspectives in the scientific literature on which behaviour is triggered by envy and admiration, and the key question we attempt to answer is which action tendencies are associated with envy and admiration. We first discuss the ideas on envy and admiration, after which we formalise the hypotheses.

### Envy and resulting motivations

Envy is the pain over the good fortune of others (Aristotle, 350BC/1954). It is a frustrating experience that can arise when someone else is better off and leads to a desire to have what the other has and/or a wish the other loses the advantage (Parrott & Smith, 1993). This definition shows a two-faced nature of envy: it can contain a desire for what someone else has and a desire that the other loses the advantage they have. In the main theoretical overviews of envy,

scholars have argued that only the malicious type of envy (with a motivation to pull down the other) should be considered “envy proper” (Miceli & Castelfranchi, 2007; Smith & Kim, 2007).<sup>1</sup> The idea was that so-called benign envy (the envy that contains the desire and motivation to get what someone else has) is actually not envy, but something closer to admiration. For ease of referral later in this manuscript, we will refer to this idea as the “envy proper theory” of envy.

In contrast to the idea that only a malicious form of envy is envy proper is that scholars have found that envy actually contains both a focus on the coveted object with a motivation to improve and a focus on the envied person with a motivation to pull down the other (e.g., Cohen-Charash, 2009; Crusius & Lange, 2014; Van de Ven, Zeelenberg, & Pieters, 2009). Van de Ven et al. conclude that it seems warranted to see envy as having two subtypes. One reason for that conclusion was that in some languages (e.g., Dutch, German, and Thai) there appear to be two words that both translate into envy, with one word referring to a malicious and one to a more benign form of envy. For example, people who recall an instance of experiencing *benijden* (the Dutch word

for benign envy) indicated to feel frustrated that the other was better off, but they also indicated being more motivated to do better themselves, while those who recalled an instance of *afgunst* (the Dutch word for malicious envy) felt frustrated and wanted to see the envied person fail in something. We refer to this idea as the “envy subtypes theory”.

Miceli and Castelfranchi (2007), as proponents of the envy proper theory, argue that a benign form of envy is actually not a form of envy. They argue that envy has to contain a sense that no improvement is possible for oneself, and that the feeling that one cannot improve oneself is actually what fuels envy. If there is emulation that seemingly results from envy, Miceli and Castelfranchi think that this is likely due to admiration, not envy. In the current work, we directly test whether one or both of these motivations, to move up and to pull down, follow from envy (also when we control for admiration).

## Admiration and resulting motivations

Admiration is a feeling of delighted approval over the accomplishment of another person. Schindler, Zink, Windrich, and Menninghaus (2013) provide a good overview of what the emotion feels like, what the antecedents are, and what the possible consequences of experiencing it are. The key motivation following from admiration is thought to be self-expansion: a desire to personally grow. Schindler et al. (2013) argue that admiration leads to the internalisation and emulation of ideals presented by an outstanding role model to reach this self-growth goal. They identify four main categories of action tendencies associated with admiration, which we think can be clustered along two dimensions: an affiliation dimension (praising the other, wanting to affiliate with the other) and an emulation dimension (internalising the values of the other, imitating them to strive for those same values). Indeed, Schindler, Paech, and Löwenbrück (2015) found that admiration leads to emulation, and thereby the desire to improve one's performance.

The prediction (and findings) of admiration theory that admiration leads to a motivation to improve seems at odds with earlier findings that studied the consequences of benign envy and admiration jointly. Van de Ven, Zeelenberg, and Pieters (2011) found that experiencing benign envy made participants more motivated to improve themselves, but experiencing admiration did not. This also follows Kierkegaard's (1849/2008) idea that admiration is “happy

self-surrender”, while envy is “unhappy self-assertion”. Schindler et al. (2015) speculated on why these possible differences existed, and we will come back to that in the Discussion section. To summarise, the subtypes theory of envy predicts that admiration does not lead to a motivation to improve oneself, while admiration theory predicts that it does. Both ideas have empirical support for their prediction, so testing this again seems important to get a better understanding of which motivations follow from the feelings that result from upward social comparisons.

Finally, Van de Ven et al. (2011) argued that admiration is most likely to lead to a motivation to affiliate with the other. This is also what Schindler et al. (2013, 2015) would likely predict: when adoration and admiration are jointly added as predictors of a motivation to affiliate, it will mainly be adoration that leads to a motivation to affiliate. But when adoration is not taken into account, admiration is likely related to a motivation to affiliate with the admired other.

## The study and hypotheses

To summarise, Miceli and Castelfranchi (2007) (as proponents of an envy proper theory of envy) argued that benign envy is actually closer to admiration, and that envy itself does not lead to a motivation to improve (but admiration would). In contrast, Van de Ven et al. (2009, 2011) found that envy did activate a motivation to improve oneself. Similarly, Van de Ven et al. found that admiration did not lead to a motivation to improve, while Schindler et al. (2015) recently found that admiration did do so. This again raises the main question of interest: does admiration and/or envy relate to a motivation to improve?

We tested this research question in one study that uses two samples. One advantage of using two samples is to have a direct replication, making findings more robust. An important theoretical reason is that with two samples, we can test the hypotheses both in a language where only one word exists for envy (English) and one in which two different words exist for the subtypes of envy (Dutch).

The different theoretical views make clear predictions on the motivations triggered by envy and admiration. In two instances, the predictions are in conflict with each other. In the following, we summarise the predictions made in specific hypotheses (with

the theories the predictions are based on in parentheses). Conflicting hypotheses are labelled as a and b.

*H1a:* In both samples, admiration is related to a motivation to improve. (*Admiration theory, envy proper theory*)

*H1b:* In both samples, admiration is unrelated to a motivation to improve. (*Envy subtypes theory*)

*H2a:* In the US sample, envy is related to a motivation to improve, in the Dutch sample benign envy is. (*Envy subtypes theory*)

*H2b:* In the US sample, envy is unrelated to a motivation to improve. (*Envy proper theory*)

*H3:* In the US sample, envy is related to a motivation to pull down the other. (*Envy proper theory, envy subtypes theory*)

*H4:* In the Dutch sample, malicious envy is related to a motivation to pull down the other. (*Envy subtypes theory*)

*H5:* In both samples, admiration is related to a motivation to affiliate with the other. (*Admiration theory, envy subtypes theory*)

At certain times, it was not completely clear what a theory would predict. The main example of this is what envy proper theory would predict regarding the motivational consequences of *benijden* and *afgunst*, the Dutch words for benign and malicious envy. On the one hand, envy proper theory might predict that both translate to envy and should therefore lead to a motivation to pull down the envied other. On the other hand, benign envy is not considered envy proper and would therefore be predicted to be more akin to admiration (which is not related to a desire to pull down the other). Because envy proper theory was not specific on these predictions, we chose to not add predictions for that theory on this relationship.

## Method

To test the different hypotheses on how envy and admiration relate to the motivations to improve, to pull down the other, and to affiliate with the superior other, we conducted the same study (with one minor but important difference) in two samples. We report how we determined our sample size, all data exclusions, and all measures in the study. There were no manipulations.

## Participants

We aimed for 160 participants in each sample, as that would give us a power of 90% to detect correlations of .25 or higher.

## US sample

The US sample was recruited via Amazon mTurk (with restrictions so only US-based respondents could participate) for a study on how people would think and feel in a certain recalled situation, for a fee of \$0.40. We ended up with 162 participants (69 females, 93 males;  $M_{\text{age}} = 31.70$ ,  $SD = 10.10$ ).

## Dutch sample

The Dutch sample consisted of psychology students who took part in a set of studies at Tilburg University. We recruited participants for a week with the goal to acquire 160. We eventually got 192 participants. Nine of those did not recall a situation as instructed and were therefore excluded from the analysis (as they could not answer questions on how they had thought and felt in that situation). This left 183 participants (138 females, 43 males, 2 gender information missing;  $M_{\text{age}} = 19.46$ ,  $SD = 2.14$ ).

## Procedure

Participants were first asked: "Recall a situation in which someone else was better off than you were. Describe that situation in a few sentences, so a reader could imagine the situation." We thus did not specify the recall of certain emotions but used general instances in which other people were better off, and used individual variation in the experiences of the emotions in the recalled episodes to relate them to motivations. After this they were asked questions on how they thought and felt in that situation. All questions were answered on a scale from 0 (not at all) to 6 (very much so). We indicated to participants that in questions we would refer to "the other" as the person who they recalled as having been better off than them, and with X to "whatever had made the other person better off (an object, an accomplishment, etc.)".

## Emotion measures

In the US sample, general envy (which is the overarching category for benign and malicious envy for proponents of the subtypes theory of envy) was measured with three questions "It was frustrating that the other was better off than I was", "I was envious of the other person", and "I was jealous of the other person" ( $\alpha = .86$ ).<sup>2</sup> In the Dutch sample, there is no general word for envy (as it only has separate words for benign and malicious envy), so general envy was

measured with the two items frustration and jealousy ( $r(181) = .47, p < .001$ ).

In both samples, admiration was measured with the question "I admired the other". Benign and malicious envy could only be measured in the Dutch sample, as only that language has separate words for them. Questions were "I felt benign envy (*benijdde*) towards the other for having X" and "I felt malicious envy (*afgunst*) towards the other for having X".

### Motivation measures

The motivation to move up oneself was measured with the four items: "I wanted to have X as well", "I felt inspired to get X myself", "I thought about what it would be like to have X", and "I wanted to put in effort to obtain X as well" ( $\alpha = .86, \alpha = .82$ , US/Dutch sample). The motivation to pull down the other was measured with the four items: "I felt cold towards the other", "I secretly wanted the other to fail in something", "I had negative thoughts about the other", and "I wanted the other to not have X anymore" ( $\alpha = .94, \alpha = .85$ ). The motivation to affiliate with the other was measured with the four items: "I sincerely praised the other for the accomplishment (to the person or to others)", "I wanted to be close to the other", "I thought the other was a role model", and "I wanted to be more like the other person in general" ( $\alpha = .84, \alpha = .73$ ). A factor analysis confirms the existence of these three motivational factors in both samples, with three factors with eigenvalues  $>1$  and each factor contributing to the explained variance (USA: 36%, 23%, 16%; Dutch: 31%, 24%, 11%).<sup>3</sup>

## Results

Table 1 contains the means, standard deviations, and correlations for both samples. Notable correlations are that in the Dutch sample the general envy measure (that combines the two items on frustration and jealousy) is related to both the Dutch word for benign envy and the one for malicious envy, but not to admiration. This is consistent with the subtypes theory of envy.

For the main analysis, it is important to add both admiration and envy (or the envy subtypes in the Dutch sample) as predictors of the motivation. As the correlations in Table 1 show, benign envy is correlated with both admiration and malicious envy, and it is thus important to see the independent effects of each emotion on the motivations. Table 2 provides the results of these multiple regression analyses, for

each sample separately. We also control for age and gender to rule out possible effects of those variables, leaving out these control variables does not change the results.

As Table 2 shows, the motivation to move up oneself was predicted by both envy and admiration in the US sample. This confirms H1a and the findings of Schindler et al. (2015) that admiration leads to a motivation to improve and rejects H1b with the ideas of Kierkegaard (1849/2008) and Van de Ven et al. (2011). Second, the finding that envy in the US sample and benign envy in the Dutch sample led to a motivation to improve confirms H2a that (benign) envy also leads to a motivation to improve (confirming earlier findings of, for example, Crusius & Mussweiler, 2012; Van de Ven et al., 2009). It rejects H2b, and the idea that only malicious envy should be considered envy proper (see, e.g., Miceli & Castelfranchi, 2007).

Experiencing more envy (in the US sample) and malicious envy (in the Dutch sample) clearly led to a stronger motivation to pull down the other, thereby confirming H3 and H4 (Table 2). Finally, for the motivation to affiliate with the other, Table 2 shows that only experiencing admiration leads to this motivation (confirming H5), neither type of envy does. Results also show that admiring the other led to a lower desire to pull down the other (marginally significantly so in the Dutch sample), which seems consistent with H5 as well.

## Discussion

The current study tested how envy and admiration relate to motivations that can follow from these emotions. Specifically, our main interest was to test whether experiences of admiration and (benign) envy led to a motivation to improve, as conflicting ideas on how these emotions relate to this motivation exist in the scientific literature. We found that admiration led to a motivation to improve, confirming the earlier ideas and findings of Schindler et al. (2013, 2015), but not those of Van de Ven et al. (2011) who had found that admiration was not related to the motivation to improve.

We also replicated earlier findings that (benign) envy led to a motivation to improve (confirming work of, for example, Crusius & Mussweiler, 2012; Van de Ven et al., 2009). We replicated that the motivation to pull down the superior other is an important consequence of malicious envy, see the overview papers on envy by Miceli and Castelfranchi (2007)

**Table 1.** Means, standard deviations, and correlations of motivations and emotions in US and Dutch samples.

		Descriptives		Correlations					
		<i>M</i>	( <i>SD</i> )	2	3	4	5	6	7
<i>US Sample</i>									
1	Move-up	4.05	(1.42)	−.09	.23**	.24**	.32***		
2	Pull-down	1.89	(1.76)		−.30***	−.33***	.45***		
3	Affiliate	2.38	(1.56)			.73***	−.03		
4	Admiration	2.94	(1.83)				−.05		
5	Envy	3.57	(1.60)						
<i>Dutch Sample</i>									
1	Move-up	3.38	(1.56)	−.04	.48***	.56***	.37***	.36***	.09
2	Pull-down	1.33	(1.42)		−.03	−.09	.36***	.41***	.76***
3	Affiliate	1.41	(1.24)			.67***	.10	.10	−.01
4	Admiration	2.18	(1.93)				.09	.17*	.01
5	Envy	3.45	(1.53)					.53***	.46***
6	Benign envy	2.37	(2.10)						.56***
7	Malicious Envy	1.29	(1.60)						

\*  $p < .05$ .\*\*  $p < .01$ .\*\*\*  $p < .001$ .

and Smith and Kim (2007), but also find that envy is broader than just malicious envy. Finally, we replicated that admiration leads to a motivation to affiliate (Schindler et al., 2015).

### Envy and admiration

These findings contribute to the literature by resolving the apparent discrepancy found in earlier work and confirm the findings of Schindler et al. (2015) that admiration leads to a motivation to improve. An important question is why Van de Ven et al. (2009, 2011) found that admiration did not lead to a motivation to improve. First, closer inspection of Study 1 of Van de Ven et al. (2009) reveals that also people who admired someone felt quite some motivation to improve, although this was slightly less strong than for benign envy. Since the main research question in that research dealt with the differences between benign and malicious envy, the possibility that admiration also could lead to a motivation to improve was perhaps not given enough attention. Second, the studies in Van de Ven et al. (2011) that show that benign envy makes one work harder, but admiration does not, might in hindsight simply have had too little power to reliably estimate whether an effect of admiration existed or not.

Another, more theoretical, reason why initial research found no effect of admiration on the motivation to improve is that there might be a difference between the measures used in those studies compared to studies that did find an effect. Where the research of Van de Ven et al. (2011) used very specific

measures of the motivation to improve (number of hours planned to study in the next semester, time spend working on a task, actual performance on an intelligence task), Schindler et al. used broader, more *emulation*-type items (an example item is “I would wish to accomplish similar things as he/she in areas that are important to me”). Perhaps benign envy leads to a direct motivation to do something and improve one’s position (regardless of whether it is in an important domain). Admiration might lead to a desire for self-improvement (or self-expansion as Schindler et al. call it) that is more focused solely on what one finds important. The negative, frustrating experience of envy thus triggers direct action (as negative emotions typically do, see Johnson, 2012, for a similar reasoning in the social comparison literature), while admiration (as a positive emotion, see Fredrickson, 2001) makes one look for broader opportunities (in this case specifically for self-expansion). This implies two things. First, admiration might motivate more in the long term, and behavioural effects following it might be delayed compared to those of benign envy (see also Schindler et al., 2013). Second, admiration might only motivate to improve in domains important to oneself or lead to a broader search for what one actually finds important (inspiration). Perhaps the type of self-improvement that admiration and benign envy trigger is thus qualitatively different. Further research could explore these ideas.

A final finding of interest is that benign envy did not lead to a desire to affiliate with the superior other, while admiration did. This seems in line with the Broaden-and-Build model of emotions, which

**Table 2.** Regression models with emotions as predictors of motivations for each sample.

DV IV	Motivations								
	Move up			Pull down			Affiliate		
	$\beta$	<i>t</i>	<i>p</i>	$\beta$	<i>t</i>	<i>p</i>	$\beta$	<i>t</i>	<i>p</i>
<i>US sample</i>									
Envy	.33	4.44	<.001	.43	6.52	<.001	-.00	0.07	.944
Admiration	.26	3.50	.001	-.28	4.22	<.001	.75	13.64	<.001
Gender	.00	0.01	.993	-.19	2.84	.005	.06	1.01	.313
Age	-.02	0.29	.773	.00	0.04	.971	-.09	1.58	.116
Model <i>F</i> (4, 157)		7.81			19.20			46.63	
<i>p</i>		<.001			<.001			<.001	
Adj- <i>R</i> <sup>2</sup>		.15			.31			.53	
<i>Dutch sample</i>									
Benign envy	.30	4.07	<.001	.02	0.36	.717	-.02	0.21	.836
Malicious envy	-.08	1.13	.261	.75	12.67	<.001	-.01	0.20	.844
Admiration	.51	8.25	<.001	-.09	1.73	.086	.69	11.66	<.001
Gender	.14	2.24	.027	-.03	0.65	.519	.02	0.41	.686
Age	-.01	0.19	.847	-.06	1.13	.262	-.09	1.45	.149
Model <i>F</i> (5, 169)		24.09			48.47			28.52	
<i>p</i>		<.001			<.001			<.001	
Adj- <i>R</i> <sup>2</sup>		.40			.58			.44	

Note: Gender is coded as 0 for male, 1 for female.

suggests that positive emotions promote social bonds while negative emotions do so less (Fredrickson, 2001). It is perhaps also not surprising that benign envy, as a negative and frustrating experience, does not lead to a desire to affiliate. After all, with every interaction with the superior other, this will likely trigger the emotion again. For an aversive emotion such as benign envy this is an undesirable experience, while for a pleasant emotion such as admiration this is a desirable experience.

### Defining envy

The current study also shows that it matters how envy is defined in research. In our view, there is no right or wrong level to study envy: it is at the same time one experience (general envy) and one that has two subtypes (if one zooms to a more detailed level). Sometimes the level of general envy is of interest (e.g., making the counterfactual thought “it could have been me” is an antecedent of general envy; Van de Ven & Zeelenberg, 2015), sometimes it can be the more detailed level (e.g., when exploring the relationship of perceptions of deservedness, where undeserved situations trigger malicious envy and deserved ones more likely trigger benign envy; Van de Ven, Zeelenberg, & Pieters, 2012). Although there is thus no formally right level for analysis of envy, we do think it would help if researchers would be explicit in how they see envy: do they consider it as general envy, malicious envy, or benign envy? A failure to be explicit

might lead to seeming inconsistencies in the literature (that are actually the result from a lack of clarity in the definition of envy one uses).

An example why it is so important to define envy well is that the empirical findings on whether envy led to *schadenfreude* (the joy over the misfortune of others) seemed mixed: some researchers found that envy led to *schadenfreude*, while others found that it did not. Van Dijk, Ouwerkerk, Goslinga, Nieweg, and Gallucci (2006) noted that when researchers found effects of envy on *schadenfreude* they used an envy measure that included the motivation to hurt the other in the envy measure, while research that found no effect of envy on *schadenfreude* included the motivation to improve in the envy measure. But in both cases, researchers would just refer to this as envy, while they actually measured a subtype of envy. Indeed, Van de Ven et al. (2015) confirmed that if one explicitly measures the subtypes, malicious envy led to *schadenfreude* while benign envy did not. This points to the importance of specifying whether one measures general envy (as the overarching emotion), benign envy, or malicious envy. The next section contains a proposal on how envy and its subtypes could be measured, based on the current findings.

### Measuring envy

It is relatively easy to measure general envy in English where the word for envy refers to general envy, but



more difficult in the Netherlands where the Dutch words that translate to envy actually refer to the subtypes. The current work provides a possible way of measuring general envy in languages that only have words for the subtypes: when one wants to measure general envy, as the higher level concept that combines the two subtypes, the two items measuring frustration when another is better off and jealousy towards the other formed a good scale. In languages where a single word exists to denote general envy (like envy itself in English), this item asking for envy itself can easily be added as a third item to form a good multiple item scale for general envy.

Where it is relatively easy to measure the benign and malicious subtypes of envy in countries where separate words exist for them, this is more difficult in languages where only one general word for envy exists (such as English). If someone wants to measure either benign or malicious envy, a possibility is to ask both the three general envy questions (envy, jealousy, and frustration) together with the four questions we used here to measure the motivation to improve (when needing a measure for benign envy, which had an  $\alpha$  of .83 in this study) or the four questions with the motivation to pull down the other (when needing a measure for malicious envy, which had an  $\alpha$  of .89). Note that this measure is not suited for studying the effects of benign and malicious envy jointly, as the measure then partially overlaps. Another possible measure for doing that can be found in Van de Ven et al. (2015) who use short descriptions of benign and malicious envy for episodic envy or the measure developed by Lange and Crusius (2015) for dispositional benign and malicious envy.

A possible criticism of including action tendencies into a measure of an emotion is that some consider this tautological (see Tai, Narayanan, & McAllister, 2012, for a discussion on this). However, from a functional approach to emotions, action tendencies are an integral part of what an emotion is (see Frijda, 1986; Keltner & Gross, 1999) and cannot be separated from an emotion as they are part of a definition of what an emotion is. Most important to us is that researchers are clear on how they conceptualise envy: we can only build upon each other's work and explore the causes and consequences of envy if scholars are clear in whether they study general envy, benign envy, or malicious envy.

## Conclusion

The current research tested which motivations are triggered by envy and admiration. We found that both (benign) envy and admiration lead to a motivation to improve oneself. It also indicates that it is important to think about how one defines envy, as there are clearly two subtypes of envy. Finally, the interesting similarities and differences between the effects of benign envy and admiration form fertile ground for future research.

## Disclosure statement

No potential conflict of interest was reported by the author.

## Notes

1. Smith's recent view on this is more nuanced (see, e.g., Hoogland, Thielke, and Smith, *in press*). However, as his review is still one of the core overview papers on envy, it is important to note here.
2. Jealousy is of course theoretically different from envy, as jealousy typically deals with three persons and the core aspect of it is the fear of losing something (or someone) to another person (one's partner in the classic case). However, people often refer to envy with the word jealousy (see Smith, Kim, & Parrott, 1988, for an extensive discussion).
3. After these questions about the experienced emotions and resulting motivations of interest to this study had been asked, some additional questions were added to explore other ideas for future research. Researchers interested in exploring this data further can contact the author. The questions were: "Do you think it was deserved that the other had X?", "How much did you think you could later get X yourself?", "How important did you thought it was for you to have X before the situation occurred that you have just described?", "How important did you thought it was for you to have X after the situation occurred that you have just described?", "How much did you like the other before the situation occurred that you have just described?", "How much did you like the other after the situation occurred that you have just described?", and "How important do you think the accomplishment of the other is in the eye of the general public?".

Furthermore, in the US sample we also asked two questions used to measure benign and malicious envy in a language that has only one word for envy, such as English, that was developed by Van de Ven et al. (2015) to explore their relationships with the current variables. These were not included in the main analyses of this manuscript, as the measure is so different from the other emotion measures used in this manuscript. This would not create a fair contrast for the main question on how benign envy and admiration relate to motivation, as the benign envy measure already contains a description that includes the motivation to improve. However, a quick look at how these measures relate to the other variables replicates the earlier finding that both the benign and malicious envy measure correlate

with general envy,  $r(160) = .27, p < .001, r(160) = .18, p = .021$ , respectively. When we relate these envy measures to the moving up motivation, we see that benign envy correlates with the tendency to move up,  $r(160) = .38, p < .001$ , while malicious envy does not,  $r(160) = .02, p = .810$ . For the pulling down motivation, we see that malicious envy correlates with the tendency to pull down the other,  $r(160) = .37, p < .001$ , while benign envy actually correlates negatively with this motivation,  $r(160) = -.18, p = .020$ . When we test the main hypothesis of the current project and add both this English measure of benign envy and that of admiration as predictors of the motivation to improve, it is mainly the benign envy measure that has an effect,  $\beta = .34, t = 4.42, p < .001$ , and the admiration measure has a marginally significant effect,  $\beta = .14, t = 1.76, p = .080$ . As we discussed before, we do not wish to interpret this finding as this benign envy measure already contains the motivation to improve, and therefore does not allow a fair comparison to test how benign envy and admiration relate to a motivation to improve.

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