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Published in:
Personality and Social Psychology Bulletin

Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
van de Ven, N., Zeelenberg, M., & Pieters, R. (2011). Why envy outperforms admiration. *Personality and Social Psychology Bulletin*, 37(6), 784-795.

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Personality and Social Psychology Bulletin

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Pers Soc Psychol Bull 2011 37: 784 originally published online 7 March 2011

DOI: 10.1177/0146167211400421

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Niels van de Ven¹, Marcel Zeelenberg¹, and Rik Pieters¹

Personality and Social Psychology Bulletin
37(6) 784–795
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DOI: 10.1177/0146167211400421
http://pspb.sagepub.com



Abstract

Four studies tested the hypothesis that the emotion of benign envy, but not the emotions of admiration or malicious envy, motivates people to improve themselves. Studies 1 to 3 found that only benign envy was related to the motivation to study more (Study 1) and to actual performance on the Remote Associates Task (which measures intelligence and creativity; Studies 2 and 3). Study 4 found that an upward social comparison triggered benign envy and subsequent better performance only when people thought self-improvement was attainable. When participants thought self-improvement was hard, an upward social comparison led to more admiration and no motivation to do better. Implications of these findings for theories of social emotions such as envy, social comparisons, and for understanding the influence of role models are discussed.

Keywords

envy, admiration, social comparison, performance, motivation, role models

Received May 27, 2010; revision accepted December 22, 2010

Admiration is happy self-surrender; envy is unhappy self-assertion.

Søren Kierkegaard, 1849/2008

Although people generally consider it a virtue to admire and a vice to envy, Kierkegaard's (1849/2008) assertion suggests a different viewpoint, namely, that envy is a more productive emotion than admiration is. Put differently, admiring someone feels positive but may not lead to a motivation to improve oneself (*happy self-surrender*), whereas being (benignly) envious of someone feels frustrating and as such may promote a motivation to improve oneself (*unhappy self-assertion*). This counterintuitive idea that the vice envy may be more productive than the virtue admiration was the guiding principle in our research. Let us examine why admiration is unlikely to stimulate performance, while (benign) envy is.

Admiration is a feeling of delighted approval of the accomplishment or character of another person and is argued to have inspiration as its motivational output (Algoe & Haidt, 2009; Keltner & Haidt, 1999). Inspiration "involves the transcendence of the ordinary preoccupations or limitations of human agency" (Thrash & Elliot, 2003, p. 871). In other words, admiration is likely to lead to feelings of connectedness to the other person, to openness, and to increased energy levels (Hart, 1998; Thrash & Elliot, 2004). Algoe and Haidt (2009) found that people who admired someone reported that they felt motivated to do better. Self-help websites also tout the motivating power of admiration; for example, Gallozzi (2010) at www.personal-development.com states

that admiration is a stepping stone that raises people to a higher level.

But is it really the case that admiration stimulates people to do better? Although some research seems to point to inspirational effects of admiration (Algoe & Haidt, 2009; Lockwood & Kunda, 1997), no research has actually investigated whether admiration leads to improved performance. Put differently, research has indicated that people say they become inspired by the people they admire, but it has not looked at what people actually do when they feel admiration. Furthermore, there is reason to believe that positive feelings following upward comparisons, such as admiration, may not increase one's motivation to perform and that inspiration and motivation cannot be equated. For example, the more positive people feel following an upward social comparison, the more inspired they indicate to be (Lockwood & Kunda, 1997). Yet, the more negative participants feel about themselves following an upward comparison, the more they actually work harder and perform better (a "no pain, no gain" principle; Johnson & Stapel, 2007a). We think that this apparent discrepancy exists because positive feelings that arise from an upward comparison increase more passive

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inspiration, whereas negative feelings increase active motivation and performance. Therefore, we hypothesized that it is more likely that it is a negative emotion, such as envy, that leads to a motivation to do better following an upward social comparison.

Envy is the emotion that “arises when a person lacks another’s superior quality, achievement, or possession and either desires it or wishes that the other lacked it” (Parrott & Smith, 1993, p. 906).¹ Envy is thus accompanied by the goal to level the difference with the superior other. Interestingly, this can be accomplished by either moving oneself up or by pulling the other down. These latter, more *destructive* effects have been documented in the literature recurrently (Duffy & Shaw, 2000; Parks, Rumble, & Posey, 2002; Schaubroeck & Lam, 2004; Smith et al., 1996; Smith, Parrott, Ozer, & Moniz, 1994; Van Dijk, Ouwerkerk, Goslinga, Nieweg, & Galluci, 2006; Vecchio, 2000; Wert & Salovey, 2004). However, reviews of envy research have not documented any *productive* effects that may stem from envy (Miceli & Castelfranchi, 2007; Smith, 2008; Smith & Kim, 2007). Still, various scholars have pointed out that envy might spur a strong motivation to improve one’s own situation as well (Aristotle, 350BC/1954; Kant, 1780/1997; Neu, 1980; Parrott, 1991; Rawls, 1971; Smith et al., 1994; Taylor, 1988). Aristotle, for example, claimed that ambitious men tend to be more envious than are others. Recent empirical work has confirmed that envy can contain the seeds of the motivation to improve (Cohen-Charash, 2009; Van de Ven, Zeelenberg, & Pieters, 2009).

Our work stems from a functional account of emotions that sees emotions as responses to problems or opportunities that arise in the environment (Frijda, 1986; Keltner & Gross, 1999). An emotion is a response to a specific set of circumstances, and each emotion leads to specific motivations to deal with those circumstances (see also Fredrickson, 1998; Zeelenberg, Nelissen, Breugelmans, & Pieters, 2008). Envy arises when one’s social standing is threatened by another person who is better in a domain important to the self-view. Restoring one’s position after such a threat is important to people (Tesser, 1988), and envy and the motivations it activates helps to do so. Van de Ven et al. (2009) found support for a distinction between two types of envy: benign and malicious envy. In their studies, participants recalled experiencing one of these types of envy and rated how the experience had felt to them and how they behaved and felt like behaving at that time. The most important difference was that participants who recalled being benignly envious indicated having experienced action tendencies aimed at improving themselves, whereas participants who recalled being maliciously envious indicated having experienced action tendencies aimed at degrading the other person. It is more likely that people experience benign envy if the advantage of the other is appraised as being deserved, whereas they are more likely to experience malicious envy if the advantage is

appraised as being undeserved (see also Van de Ven, Zeelenberg, & Pieters, 2010a, 2010b, 2011).

The idea that benign envy motivates people to perform better when they are outperformed extends the “no pain, no gain” principle put forward by Johnson and Stapel (2007a). They argued that some frustration and self-threat (“pain”) is necessary for upward comparisons to stimulate performance (“gain”). We have reason to believe, however, that pain by itself is not sufficient, as it is present in both benign and malicious envy. For malicious envy, we found earlier that there is emotional pain but no motivational gain for self-improvement (Van de Ven et al., 2009). We therefore expect that it is the specific sting of benign envy that motivates people to do better. We return to the relation between findings on affective reactions following upward comparisons and the literature on social comparisons more extensively in the General Discussion.

To summarize, we predicted that only benign envy, and not admiration or malicious envy, would motivate people to improve their performance. In an initial study we asked people to recall an upward comparison, after which we measured the experienced emotions and motivation. After this, we examined our hypothesis in two studies in which benign envy, malicious envy, and admiration were induced by recalling an episode of these emotional experiences or by completing an imagination task. A no-emotion control condition was included as a baseline measure of performance. In the final study we investigated the self-surrendering nature of admiration in further detail, as we explain later.

Study I

To examine whether experiencing benign envy does indeed lead to a motivation to improve oneself, we assessed students’ planned effort to study in the upcoming semester after we had asked them to make an upward social comparison. Participants were asked to recall an instance in which someone else was better than they were. By recalling a certain situation in which emotions are felt, the action tendencies of these emotions are also activated again (Matelesta & Izard, 1984; Strack, Schwarz, & Gschneidinger, 1985). Because it is only the emotion of benign envy following upward comparison that is thought to include action tendencies aimed at trying to do better, we expected only the intensity of benign envy in the recalled situation to be related to the motivation to improve oneself.

The current studies were run in the Netherlands. In the Dutch language (but also in other languages such as German, Polish, and Thai) there are separate words for benign envy (*benijden*) and malicious envy (*afgunst*). Online dictionaries (e.g., lookwayup.com) translate both Dutch words to *envy* in English, and *envy* translates to both *afgunst* and *benijden*. The existence of these two separate words for the envy types

Table 1. Felt Emotions Following an Upward Comparison and the Planned Increase in Study Hours in Study 1

	M	(SD)	Correlation		
			Benign envy	Malicious envy	Admiration
Planned increase in study hours	2.47	(9.15)	.58*	.28	-.16
Benign envy	3.47	(1.74)		.37	-.11
Malicious envy	2.00	(1.06)			.28
Admiration	5.00	(1.00)			

Note: Emotions toward better other measured on a 7-point scale, from 1 (*not at all*) to 7 (*very much so*).

* $p = .015$. All other correlations are not significant, $p \geq .140$.

facilitated measuring precisely these experiences, as we could directly ask for benign envy and malicious envy (see also Van de Ven et al., 2009).

Method

Seventeen undergraduate students were asked to describe a person they knew well who was better at something than they were. After this, they indicated how much they were benignly envious of this person, maliciously envious of this person, and admired this person (1 = *not at all*, 7 = *very much so*). The questions were presented in a random order for each participant. Next, in an ostensibly unrelated new study on work motivations, participants responded to the question, "Compared to last semester, how many hours more or less do you plan to spend on your study in the upcoming semester?"

Results and Discussion

Table 1 presents the data. Participants indicated that they felt admiration most, and more so than they felt benign and malicious envy. Most important to us was how variations in the experienced intensity of the three emotions related to the motivation to improve. As Table 1 shows, only benign envy was significantly related to the increase in hours the students planned to spend on their studies. A regression analysis with the three emotion measures added simultaneously as predictors of the motivation to study provides the same results; only benign envy, $\beta = .54$, $p = .043$, but not admiration, $\beta = -.10$, $p = .660$, or malicious envy, $\beta = .07$, $p = .781$, predicted the intention to study more. This is a first indication that after being outperformed, benign envy increases the motivation to perform while admiration and malicious envy do not.

Study 2

Study 2 was designed to replicate Study 1 and extend the initial findings by moving from behavioral intentions to actual performance on a task that is sensitive to motivational input, the Remote Associates Task (RAT; McFarlin & Blascovich, 1984; Mednick, 1962). Performance on this task can increase when participants are more motivated, for example, when they concentrate more or spend more time on the task. We expected that participants who recalled an experience of benign envy would become more motivated to do well and to answer more items correctly as a result.

In Study 1 we measured the emotions experienced after an upward social comparison was made, but in this study we experimentally induced them via an emotion recall task. Recalling a situation in which a certain emotion was experienced reactivates the emotion and thereby also the motivational tendencies associated with that emotion (Matelesta & Izard, 1984; Strack et al., 1985). If only benign envy contains the motivation to improve oneself, we expected that only participants who recalled being benignly envious would perform better on the RAT, compared to those who recalled admiring someone, being maliciously envious, or those in a control group.

We also assessed the pleasantness of the recalled experience and the perceived deservedness of the advantage of the other in the recalled situation. We expected that admiration felt more positive to the participants than benign and malicious envy did. Furthermore, we predicted that participants who were writing about an instance of benign envy would consider the recalled situation to be more deserved than those writing about an instance of malicious envy.

Method

Eighty-six participants² were randomly assigned to a benign envy ($n = 22$), an admiration ($n = 22$), a malicious envy ($n = 21$), or a control condition ($n = 21$). After recalling an experience of benign envy, malicious envy, admiration, or nothing (the control condition) participants in the three emotion conditions indicated how positive or negative the recalled emotion had felt ($-3 = \textit{very negative}$ to $+3 = \textit{very positive}$) and how deserved they felt it was that the other person had an advantage over them ($-3 = \textit{very undeserved}$ to $+3 = \textit{very deserved}$). Next, an ostensibly unrelated study started, which was the RAT. The RAT consisted of 18 items, for which the participant is asked to think of a word that relates to three given words (e.g., for *coffee*, *cake*, *butter*, the word *cup* would be the correct answer). It was introduced as "an important instrument used to measure creativity and leadership."

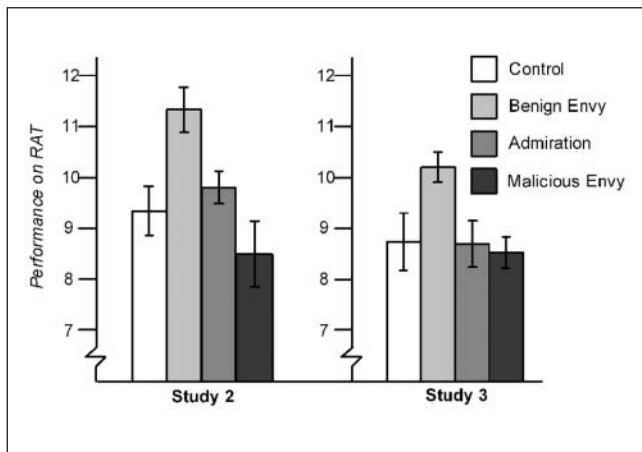
Results and Discussion

As shown in Table 2, the admiration experiences clearly felt more positive to the participants than did both types of envious

Table 2. Pleasantness of the Emotional Experience and Deservingness of the Recalled Experience per Condition in Study 2

Condition	Pleasantness (-3 to +3)		Deservingness (-3 to +3)	
Benign envy	-0.86 _a	(1.73)	0.95 _b	(1.91)
Admiration	1.82 _b	(0.96)	2.36 _c	(0.85)
Malicious envy	-1.24 _a	(1.26)	-1.00 _a	(1.18)
Statistics	$F(2, 62) = 32.98$, $p < .001$, $\eta_p^2 = .52$		$F(2, 62) = 31.60$, $p < .001$, $\eta_p^2 = .51$	

Note: Standard deviations are in parentheses. Subscripts indicate differences between conditions tested with least significant difference post hoc comparisons, with all $ps < .001$.

**Figure 1.** Motivational effects per emotion condition in Studies 2 and 3

Note: Error bars represent ± 1 SE of the mean. Post hoc analysis found that in each study, the benign envy condition differed significantly from the other conditions; none of the other conditions differed significantly. RAT = Remote Associates Task.

experiences (which felt equally negative). Furthermore, the participants who recalled an instance of malicious envy had found it undeserved that another person had an advantage over them, whereas those who recalled an instance of benign envy or one of admiration had considered it to be deserved (for admiration more so than for benign envy).

The left panel of Figure 1 shows the average number of correct answers on the RAT per condition. An ANOVA revealed a significant effect of condition, $F(3, 82) = 6.24$, $p = .001$, $\eta_p^2 = .19$. As predicted, post hoc least significant difference (LSD) analysis found that participants in the benign envy condition performed better ($M = 11.38$) than those in the admiration ($M = 9.82$, $p = .024$), malicious envy ($M = 8.48$, $p < .001$), and control ($M = 9.33$, $p = .004$) conditions. These latter three conditions did not differ significantly from each other (all $ps \geq .054$).³

Study 3

A potential drawback of the recall procedure used in Study 2 could be that the participants might not report only on different emotions but also on different social comparison others (e.g., professional musicians in the admiration condition and fellow amateur musicians in the envy condition). Such possible differences in comparison others might have affected the results. Study 3 rules out this possibility by using one and the same situation for all participants and asking them to imagine and describe how they would feel and react if they would experience benign envy, admiration, or malicious envy in that situation. We again used the RAT as the measure of performance but now also recorded the time participants worked on the task. This allowed us to explore whether the superior performance in the benign envy condition was caused by a motivation to work longer on the task.

Method

Ninety-six students of Tilburg University took part in a series of studies, of which ours was part. They were randomly assigned to a benign envy, admiration, malicious envy, or control condition ($n = 24$ per condition). The participants first read a story about a fellow student, “Hans de Groot” (adopted from Johnson & Stapel, 2007b). In the three emotion conditions, a fake news article described Hans as an excellent student from Tilburg University who had just won a prize in a prestigious student competition. Hans was selected for the competition because of his excellent grades and wide-ranging extracurricular activities, and had won because of his “remarkable intellectual abilities shown during the completion of a variety of tasks.” The participants in the three emotion conditions were asked to imagine that “Hans is a fellow student, and you feel strong *benign envy/admiration/malicious envy* toward him. Please take some time to describe how you would feel, how you would react, what you would do if you would meet him, etc.” In the control condition, participants read about Hans as an average student who had participated in the student competition and had performed reasonably well; in no way had he stood out (positively or negatively) during the tasks of the competition.

After participants had imagined and described how they would feel toward Hans, they responded to three manipulation checks by indicating how much they would feel benign envy, admiration, and malicious envy toward Hans (1 = *not at all* to 9 = *very much so*).⁴ Next they were told they could work on the RAT “for a maximum of five minutes, or if you finish early or cannot find any new answers you can continue to the next study before the five minutes are over.”

Results and Discussion

Manipulation checks. Table 3 presents the manipulation checks. There were differences between conditions on all

Table 3. Manipulation Checks of Study 3

Condition	Experienced emotions					
	Benign envy		Admiration		Malicious envy	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Control	3.75 _a	(2.17)	4.63 _a	(1.93)	2.63 _a	(1.35)
Benign envy	6.25 _b	(1.75)	5.33 _{ab}	(1.69)	5.52 _b	(1.98)
Admiration	4.92 _a	(2.21)	6.04 _b	(1.92)	3.54 _a	(1.96)
Malicious envy	4.88 _a	(2.23)	4.71 _a	(2.14)	5.96 _b	(2.26)
Statistics	$F(3, 92) = 5.69,$ $p = .001, \eta_p^2 = .16$		$F(3, 92) = 2.57,$ $p = .044, \eta_p^2 = .08$		$F(3, 92) = 15.34,$ $p < .001, \eta_p^2 = .33$	

Note: The experienced emotion is measured on a 9-point scale, from 1 (*not at all*) to 9 (*very much so*). Subscripts indicate differences between conditions tested with least significant difference post hoc comparisons, with all $ps < .05$.

three measures, and the manipulated emotion was always the dominantly experienced emotion in the corresponding condition. Inspection of the results also shows that participants in the benign envy condition indicated feeling quite some admiration and malicious envy as well. Nevertheless, they did indicate (somewhat) more benign envy than admiration, paired $t(23) = 1.81, p = .084$, and malicious envy, paired $t(23) = 2.73, p = .012$.

Motivation and performance. As shown in the right panel of Figure 1, we again found the predicted differences between conditions in performance on the RAT,⁵ $F(3, 92) = 3.52, p = .018, \eta_p^2 = .10$. LSD post hoc analysis revealed that participants in the benign envy condition performed better ($M = 10.21$) on the RAT than those in the admiration ($M = 8.71, p = .012$), malicious envy ($M = 8.54, p = .005$), and control ($M = 8.75, p = .014$) conditions. As before, these latter three conditions did not differ (all $ps \geq .772$).

Figure 2 shows the time spent working on the RAT. Each step down in the lines from left to right indicates that a participant voluntarily stopped working on the task at that time. The results of a survival analysis⁶ (Kaplan & Meier, 1958) confirmed our prediction that participants in the benign envy condition persisted on the task more than those in the admiration, Breslow $\chi^2(df = 1) = 6.28, p = .012$, malicious envy, Breslow $\chi^2(df = 1) = 3.59, p = .058$, and control, Breslow $\chi^2(df = 1) = 3.32, p = .068$, conditions. These latter three conditions did not differ from each other, all Breslow $\chi^2s(df = 1) \leq 0.90, ps \geq .343$.

The time participants spent on the RAT ($M = 238$ s; 39 of the 96 participants used the full 5 min) was positively related to the number of correct answers on the RAT, $\beta = .20, t(95) = 1.98, p = .051$. This shows that spending more time on the task had a positive effect on performance. Yet, even after controlling for the longer time spent working on the RAT, benignly envious participants still performed better than the participants in the other conditions, $F(3, 96) = 2.74, p = .048, \eta_p^2 = .08$, with all LSD post hoc tests having $ps \leq .046$. This indicates that participants in the benign envy condition not only worked longer but also “smarter,” which is an intriguing finding.⁷

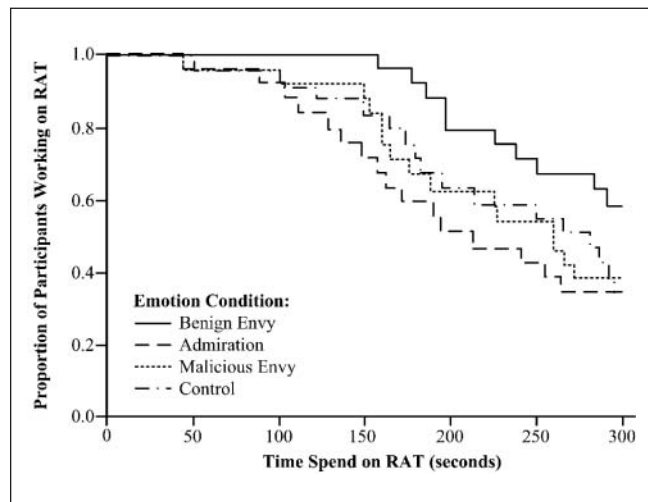


Figure 2. Time spent on Remote Associates Task (RAT) per participant per condition in Study 3

Note: Steps from left to right in the curves indicate participants quitting the RAT.

This study also provides insights into a possible reason why scholars believe that admiration, and not envy, is a motivating factor. For example, Parrot (1991) and Smith (2004) reasoned that if envy “transmutes” or develops into admiration, the envious will become motivated to attain more for themselves. In the present study, the participants who were benignly envious also indicated that they experienced quite some admiration, perhaps because it is a more socially desirable answer (Parrott, 1991). However, a closer look at the effects of the self-reported emotions on performance via regression analysis revealed that admiration was unrelated to performance, $\beta = .08, t(95) = 0.79, p = .432$, whereas benign envy was related to performance, $\beta = .23, t(95) = 2.29, p = .024$. Therefore, although the participants in the benign envy condition indicated experiencing quite some admiration, it was only their reported experience of benign

envy that was associated with their performance, and this is crucial. This nicely replicates the findings of Study 1. Note that the intensity of the experienced malicious envy was also unrelated to performance, $\beta = .12$, $t(95) = 1.15$, $p = .253$, again showing that it is not just any pain following upward comparisons that stimulates performance. We also tested whether benign envy statistically mediated the effect that participants performed better in the benign envy condition compared to the malicious envy and admiration conditions via the bootstrapping procedure of Preacher and Hayes (2008). Benign envy partially mediated the effect with a confidence interval set at 90%.

Unhappy Self-Assertion Versus Happy Self-Surrender

So far we have found that benign envy increases the motivation to do better, whereas malicious envy and admiration do not. The goal of the next study was to examine more closely the relation between benign envy and admiration. With “happy self-surrender,” Kierkegaard (1849/2008) suggested that admiration arises when people give in to the thought that they will not be able to attain the coveted object. In fact, he reasons (p. 71) that “an admirer who feels that he cannot be happy by surrendering himself elects to become envious of that which he admires.” Whereas Kierkegaard describes it as a choice to *become* envious (if one cannot surrender), we believe it more likely that a person in that situation *remains* envious. As we explain below, we have reason to believe that the initial reaction to an upward social comparison is envy. However, in situations where envy would be ineffective, some cognitive effort is taken to transform the experience into admiration. Let us explain why.

Envy is a counterfactual emotion that arises from feelings such as “it could have been me” (Elster, 1991; Teigen, 1997; Zeelenberg & Pieters, 2004). From a functional perspective, it is ineffective to be benignly envious of someone if the coveted good cannot be obtained: An envious person would feel frustrated but would not be able to fulfill the associated action tendency to improve one’s situation. Without an opportunity for self-assertion, only discontent with one’s own situation would remain, which is clearly an undesirable state. We therefore predicted that when people believe that self-improvement is hard, they are more likely to experience admiration. Earlier research has indeed found that attainability of the superior position of the upward comparison target matters for resulting self-perceptions (Lockwood & Kunda, 1997, 1999), and Study 4 helps integrate our findings about social comparison emotions with that literature. Note that we do not intend to study whether the exact position of the superior target is attainable but rather whether people appraise whether the situation at hand provides an opportunity to perform better.

Study 4

Method

Thirty-four participants were either primed with the idea that changing one’s behavior is easy (change is easy, $n = 17$) or that change is difficult (change is difficult, $n = 17$). The prime was that of Poon and Koehler (2006, Experiment 2), who used it to activate an incremental framework of personality (traits can change over time) versus an entity framework of personality (traits are as they are and do not change over time; see also Dweck, 1999). The prime was disguised as a “study of reading comprehension and explanation.” The prime in the change is difficult condition detailed the life and achievements of a (fictitious) great scientist on two pages, suggesting that he had always been on a path to becoming a scientist (the prototypical introverted student, born in a family of eminent scientists, etc.). It suggested that to achieve something, everything should fall into place including things such as being born in the right family. In the change is easy condition, the many changes in the scientist’s life were highlighted (e.g., he was born in a poor family) to suggest he did many different things during his life, after which he still became a great scientist.

Next, participants read the newspaper article on Hans de Groot, the superior student who did well in the “national student competition” (see Study 3). They were then asked to indicate how much benign envy, malicious envy, or admiration they felt toward the superior student (1 = *not at all*, 7 = *very much so*). These questions were presented in a random order. After this, an ostensibly unrelated study started that measured their motivation to do better by assessing how much extra time they were planning to spend on studying in the upcoming semester (as in Study 1).

Results and Discussion

Table 4 presents the results. Participants in the change is easy condition felt more benign envy toward the superior student than did participants in the change is difficult condition. For admiration, the opposite pattern existed: Admiration was (marginally) stronger when change was thought to be difficult than when it was thought to be easy. Malicious envy did not differ between conditions. We asked participants how many more or fewer hours they planned to spend on their study in the upcoming semester compared to the current one, and we found that those in the change is easy condition planned to study more than did those in the change is difficult condition. Indeed, only in the change is easy condition did the participants plan to spend more hours on their study than they had in the previous semester, $t(16) = 3.69$, $p = .002$, $d = 1.85$, and this did not differ from zero in the change is difficult condition, $t(16) = 0.17$, $p = .886$, $d = 0.09$. Most importantly, if we added the emotions as covariates to the analysis on the effect of the primes on performance, the

Table 4. Emotions Experienced Toward Superior Student and Change in Study Hours per Condition in Study 4

Condition	Dependent variables							
	Benign envy		Malicious envy		Admiration		Change in study hours	
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)
Change is difficult	3.47	(1.51)	2.65	(1.41)	5.29	(1.11)	+0.41	(9.93)
Change is easy	4.71	(1.49)	2.65	(1.37)	4.53	(1.33)	+7.06	(9.46)
Statistics	$t(32) = 2.41,$ $p = .022, d = 0.85$		$t(32) = 0.00,$ $p = .999, d = 0.00$		$t(32) = 1.83,$ $p = .077, d = 0.65$		$t(32) = 2.16,$ $p = .038, d = 0.76$	

Note: Emotions were measured on 7-point scales, from 1 (*not at all*) to 7 (*very much so*). Change in study hours was the number of hours participants indicated spending more or less on their study in the upcoming semester compared to the previous one.

effect of prime disappeared, $F(1, 29) = 1.20, p = .283, \eta_p^2 = .04$, and only benign envy was related to performance, $F(1, 29) = 5.76, p = .023, \eta_p^2 = .17$, while the other emotions were not, $F(1, 29) \leq 1.48, p \geq .234, \eta_p^2 \leq .05$. Further analysis following the bootstrapping analysis of Preacher and Hayes (2008) confirmed that the effect of condition was indeed fully mediated by benign envy with a confidence interval set at 95%.

These results show that people who think that improvement is under one's own control experience more benign envy than admiration after being confronted with a superior other student. Being more benignly envious also led to a motivation to spend more time on studying. However, if improvement is thought to be outside of one's control, people feel more admiration and as a result do not become motivated to study more.

General Discussion

A series of four studies supported Kierkegaard's (1849/2008) original hypothesis that envy motivates while admiration equals admitting defeat. Participants experiencing benign envy became motivated to work harder and actually performed better than those experiencing admiration or malicious envy. Study 1 showed that experiencing benign envy after an upward comparison led to an intention to spend more hours studying in the upcoming semester, whereas admiration and malicious envy did not. Study 2 revealed that participants performed better on the RAT (measuring intelligence and creativity) after they recalled being benignly envious than after they recalled admiring someone, being maliciously envious, or being in a neutral control condition. In Study 3, participants read a story about a superior student and were asked to imagine how they would respond if they were benignly envious to him, admired him, or were maliciously envious toward him. As an indication of the higher motivation, participants who were benignly envious worked longer on the RAT than did others, which resulted in a better performance on this task.

Next, we investigated in Study 4 what happened if a person was benignly envious but felt that self-improvement is difficult. If someone felt the frustrating experience of benign envy but could not resolve this because improvement was perceived to lie outside of one's control, the emotion could not be resolved and the frustration would linger. We hypothesized that when self-improvement is thought to be difficult, a situation that normally would trigger benign envy would then trigger admiration. Study 4 indeed found that when participants thought improvement was under one's control, benign envy was experienced and students planned to study more following an upward social comparison. When participants thought improvement was outside one's control, admiration was the stronger response and participants did not become motivated to do better.

Note that we do not argue that this is the only route to admiration, as this emotion may be experienced in many other circumstances. First, admiration often arises for virtuous and moral acts (Algoe & Haidt, 2009; Immordino-Yang, McColl, Damasio, & Damasio, 2009), for which envy is unlikely. Furthermore, a person who witnesses an outstanding performance of another person in a domain that is not important for the person him- or herself (e.g., a scientist who sees a swimmer win an Olympic gold medal) is also likely to admire this person. An outstanding performance in a domain unimportant to oneself likely leads to admiration directly, a prediction that future research might test.

Although in our studies admiration did not improve performance, we do not wish to claim that admiration lacks positive consequences overall. For example, the broaden-and-build model (Fredrickson, 1998) describes how positive emotions broaden one's repertoire for further actions. Positive emotions, such as admiration, generally signal that things are going well, which can lead to creative exploratory behavior and strengthen the bonds between people. Also, more-recent research found that positive emotions such as pride can activate specific action tendencies as well (Harth, Kessler, & Leach, 2008; Williams & DeSteno, 2009). The functions of admiration thus remains unclear, but it could,

for example, inspire novel ways to reach one's goals, to focus on new domains of performance if one is severely out-classed in one, or to enhance the relationship with the admired person.

An interesting question is whether a benignly envious person becomes motivated to do better only in the domain where the envy existed or whether the motivation to do better generalizes to other domains as well. For example, in our Study 1, participants recalled instances in which another person outperformed them in an important domain. The recalled upward comparison was not always related to our study-related measure of motivation to improve. The number of participants in that study is insufficient to conduct further analysis here, but we speculate that benign envy triggers a more general motivation to do better that is not limited to the domain of comparison. For example, we expect that if someone is benignly envious of a friend who excels at sports, this benign envy could lead to a motivation either to do better in sports or to spend more time studying. This likely depends on the circumstances, such as how important people find the domain of performance and whether an opportunity exists that allows for self-improvement. Further research is needed to clarify whether benign envy indeed leads to a general motivation to do better or to a more specific motivation only in the domain in which the envy was elicited.

The main difference in the appraisals that trigger benign or malicious envy is the perceived deservedness of the situation: If the advantage of another is deserved, benign envy is more likely; if it is undeserved, malicious envy is more likely (Van de Ven et al., 2010c). At first glance, this seems to relate to our finding that benign envy exists only if the situation is thought to allow for improvement. After all, undeserved advantages of others imply that working hard might not be sufficient to achieve the desired goals. However, research on the appraisals of envy found that both perceived deservingness and perceived control over the situation have an independent effect on the type of envy that situations elicit. Furthermore, situations that trigger admiration are also strongly related to appraisals of deservingness: We admire people who deserve their good fortune, not those who were lucky. Deservingness of an advantage of another person by itself is therefore not sufficient to activate a motivation to improve oneself; it really is benign envy that does this. Consistent with emotion theory (e.g., Frijda, 1986), it is the appraisals of the situation that lead to the specific emotions, and these emotions in turn activate motivations.

Social Comparisons

The current results help illuminate how social comparisons affect behavior. Upward social comparisons have been found to influence people in various ways and can make people feel both worse and better about themselves (Collins, 1996).

For example, some art students who enrolled in a 6-week summer school with other highly skilled students felt threatened and inferior, whereas other students felt inspired in this situation (Burleson, Leach, & Harrington, 2005). The effects of upward comparisons on subsequent behavior are also mixed: They can stimulate people to do better (Blanton, Buunk, Gibbons, & Kuyper, 1999; Marx & Roman, 2002; Seta, 1982) but can also hurt subsequent performance (Dijksterhuis et al., 1998; Stapel & Suls, 2004). Johnson and Stapel (2007a) combined these earlier findings and found that only when people felt threatened after an upward comparison did their performance become better. Our findings are consistent with this "no pain, no gain" principle but go beyond it by revealing that it is not just any pain from upward comparisons that increases performance. Malicious envy also included negative feelings about oneself (see, e.g., Study 2; Van de Ven et al., 2009) but did not increase performance. A negative feeling is not sufficient for an upward comparison to motivate. It appears that the specific sting of benign envy, not just any sting, is the impetus to improving one's own position after an upward social comparison.

An important aspect of the current findings is that if achievements were thought to be difficult to attain, performance did not increase after an upward comparison. Lockwood and Kunda (1997) studied related phenomena and found that 1st-year students rated themselves better on attributes such as being bright and skillful when they were confronted with a superior 4th-year student, whereas 4th-year students who were confronted with this outstanding other rated themselves as worse. These findings are generally interpreted as showing that attainability of the accomplishment matters; if the superior position is thought to be attainable, people become inspired. However, as discussed before, inspiration and actual performance seem to be different constructs; admiration contains inspiration (Algoe & Haidt, 2009), but the current studies found that admiration does not (directly) stimulate performance. The findings of Lockwood and Kunda are important, but these authors did not investigate how these experiences influenced subsequent performance. Based on their research and the current findings, we predict that only the 4th-year students would perform better on a subsequent task. After all, a self-threat is necessary for performance to increase (Johnson & Stapel, 2007a), and being more similar to the superior target makes it more likely that (benign) envy is experienced (Salovey & Rodin, 1984; Schaubroeck & Lam, 2004). Although these predictions differ from those of Lockwood and Kunda, note that their general idea is related to ours: When confronted with an upward comparison, perceptions that improvement is difficult to attain do not spur a motivation to perform. The key difference is our idea that it is not the attainability of the position of the outstanding other that determines motivation but

rather whether the person who compares upward perceives the subsequent situation to allow for self-improvement. Perceived control potential therefore remains an important moderator explaining when (and why) upward comparisons stimulate performance.

Linking the current work to that on social comparisons also helps make predictions on how people can cope with being benignly envious. As we have shown, the typical action tendency of benign envy is to try harder, which helps to relieve oneself from the frustrating experience of envy. Johnson and Stapel (2007a) found that affirming oneself (by recalling some positive aspects of oneself) removed the self-threat after an upward comparison. Lockwood and Kunda (1999) found that upward comparison did not affect participants when they had previously imagined their own best performance. Recalling one's own positive aspects is thus likely to help to alleviate (or prevent) feelings of envy after being confronted with a superior target. As Johnson and Stapel also found, this comes at the cost of losing the extra motivation to perform better.

The findings in the current article are also consistent with work on counterfactuals in the social domain. People can sometimes choose with whom to compare: people who are worse off or people who are better off. In situations that allow for improvement, people tend to compare to those who are better off, whereas in situations that do not allow for better performance, they prefer downward comparisons (Markman, Gavanski, Sherman, & McMullen, 1993; Roese & Olson, 1995). This clearly reflects our ideas that benign envy entails self-assertion and admiration entails self-surrender. The counterfactual literature also proposes that it is negative affect that causes an increased motivation after making upward counterfactual comparisons (Epstude & Roese, 2008; Markman & McMullen, 2003; Markman, McMullen, & Elizaga, 2008). Our data reveal instead that it is not just any pain that activates the motivation to do better, as benign and malicious envy were affectively equally negative, but malicious envy did not improve performance and benign envy did.

Role Models

The current findings may also shed new light on how role models can influence people. Because benign envy increases performance and admiration does not, we would predict that role models that trigger benign envy have a greater impact on performance than those that elicit admiration. Consistent with this idea is the finding that role models increase performance more for people who are more likely to compare themselves with others (Buunk, Peiro, & Griffioen, 2007). This dispositional tendency to compare oneself with others, the social comparison orientation (Gibbons & Buunk, 1999), is positively related to the dispositional tendency to experience

envy (Smith, Parrott, Diener, Hoyle, & Kim, 1999; see Zeelenberg & Pieters, 2007). Based on these findings, it seems safe to conclude that those who tend to compare themselves to others and thus experience envy regularly are more likely to become motivated after being exposed to an outstanding, but attainable, role model.

Another example where envy might help in making predictions is found in research on the effect that female role models have on other females' math test performance (Marx & Roman, 2002). Females tend to perform worse than males on a math test when a male experimenter is present (a result from stereotype threat; see Steele, 1997). However, when a female experimenter was present who was highly competent in math, performance of the females increased. Marx and Roman (2002) attribute this effect to a "buffering effect" of the role model, but an alternative explanation might be that the females are benignly envious of the superior other. As discussed before, superior *similar* people in important domains elicit most envy. The female participants in this study were selected for their interest in math, and for these females a high-achieving role model is likely to elicit benign envy, which could have caused the better performance for them.⁸ If benign envy played a role in causing the results in this study, a similar pattern is expected for the male participants; the males are expected to be more benignly envious when a well-performing male was present than when a well-performing female was present. The data suggest that this might have been the case, and although the difference was not significant, this could be caused by the small number of participants, as a medium-sized effect existed. Investigating whether role models indeed elicit benign envy might help illuminate how outstanding others motivate persons.

Conclusion

Across four studies we find that benign envy, but not other emotions associated with upward social comparisons, stimulates better performance following an upward comparison. Admiration feels good but does not lead to a motivation to improve oneself. Kierkegaard (1849/2008) called admiration *happy self-surrender*, a feeling that the other is so good at something that one can only look with appreciation at how good the other is. Benign envy, on the other hand, feels frustrating but it does lead to a motivation to improve. Kierkegaard called this *unhappy self-assertion*, a negative feeling about oneself that arises from a comparison to the outstanding other but that does elevate effort and performance. Is benign envy therefore better than admiration? It might be, but although self-assertion increases performance, self-surrender feels better. So, the answer to the question whether to admire or to be envious might depend on what matters most: feeling better or performing better.

Authors' Note

The authors thank Camille Johnson and Diederik Stapel for their helpful comments.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

Notes

- Note that envy is often referred to with the word *jealousy*, but clear differences exist. Whereas envy arises when another person has something that one lacks, jealousy arises when a person has something but is afraid of losing it to another person (Neu, 1980; Parrott & Smith, 1993; Smith, Kim, & Parrott, 1988).
- One participant who indicated having never experienced malicious envy was dropped from the analysis.
- Participants in the admiration condition performed marginally better than those in the malicious envy condition, $p = .054$. Because this effect was not found in Study 3, we do not consider this to be a meaningful difference.
- The order was counterbalanced, which had no influence on the results whatsoever, $F(15, 243) = 0.72$, $p = .730$, $\eta_p^2 = .04$.
- Performance on the Remote Associates Task (RAT) in Study 3 was slightly worse than in Study 2, probably because we added the maximum duration of 5 min in Study 3.
- An ANOVA with the emotion condition as the between-subjects variable and the time spent working on the RAT as the dependent variable showed the same pattern, $F(3, 92) = 2.59$, $p = .058$, $\eta_p^2 = .08$. The average time participants worked on the task per condition was 269 s in the benign envy condition, 213 s in the admiration condition, 237 s in the malicious envy condition, and 235 s in the control condition. However, because the data are not normally distributed due to the maximum duration of 5 min, a survival analysis is the preferred method of analysis (Mantel, 1966).
- Interestingly, Harkins (2006) found that the RAT—as a measure of motivation and performance—may sometimes be less straightforward than it seems: He found that for some types of difficult items, an increased motivation might actually lead to lower performance. The RAT we used contained nine easy and nine difficult items, and in both Studies 2 and 3 we found that the increased performance on the RAT was caused by better performance on the difficult items; on the easy items, no differences existed between conditions. Given our pattern of findings, including the measure of time spent on the task in Study 3 shows that for our RAT measure, a higher motivation does lead to higher performance.
- This does not explain why a stereotype threat occurs, only that the “buffering effect” is potentially caused by benign envy.

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