THE ELICITATION OF THE MOST JOYLESS OF ALL SINS

DETERMINANTS OF BENIGN AND MALICIOUS ENVY

I n a u g u r a l – D i s s e r t a t i o n

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Erklärung

Chapter 2 beruht auf folgendem Manuskript:

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Beide Autoren waren bei der Entwicklung der Idee beteiligt und haben die Datenerhebung überwacht. Ich habe die Analyse der Daten durchgeführt und das Manuskript geschrieben. Jan Crusius hat wertvolle Vorschläge beigetragen.

Chapter 3 beruht auf folgendem Manuskript:

Lange, J., & Crusius, J. (2015). The tango of two deadly sins: The social-functional relation of envy and pride. *Journal of Personality and Social Psychology, 109*, 453-472. doi: 10.1037/pspi0000026

Ich habe die Idee entwickelt, die Datenerhebung überwacht, die Analyse der Daten durchgeführt und das Manuskript geschrieben. Jan Crusius hat zu jedem Schritt wertvolle Vorschläge beigetragen.

Jens Lange, Köln, September 2015

Abstract

Envy stems from a frustrating upward comparison and leads to diverse affective changes, cognitions, and behavioral tendencies aimed at leveling the status difference between the envier and the envied person. Benign envy increases efforts to improve the envier's status whereas malicious envy increases efforts to harm the envied person's position. Despite its importance, the elicitation of envy is still poorly understood. To address this void, I propose a model for the elicitation of envy in which appraisals of personal control over reaching the envied person's status-yielding standard and deservingness of the advantage coordinate envy's diverse components—a conceptualization of benign and malicious envy as a social-functional emotion syndromes. Dispositional and situational determinants that affect the appraisal dimensions should therefore elicit either benign or malicious envy. In line with this prediction, Chapter 2 demonstrates that different forms of achievement motivation modulate envy, which is in line with the notion that they are theoretically linked to appraisals of personal control. Hope for success relates to dispositional benign envy, while the latter correlates with increased performance in long-distance runners. In contrast, fear of failure relates to dispositional malicious envy, while the latter is associated with the avoidance of a time goal. Furthermore, Chapter 3 demonstrates that superior individuals' pride displays modulate envy by conveying affective and inferential information to observers, which is in line with the notion that they are theoretically linked to appraisals of deservingness and personal control. Authentic pride displays are likable and convey status in the form of prestige, increasing benignly envious inclinations and behavior. Hubristic pride displays are less likable and convey status in the form of dominance, increasing maliciously envious inclinations and behavior. Collectively, the evidence supports the model of the elicitation of envy. Based on this conceptualization, I highlight future research opportunities regarding the coordination of envy's investigated as well as neglected components and how this approach informs emotion research in general.

Keywords: benign and malicious envy, emotion elicitation, emotion syndrome, achievement motivation, authentic and hubristic pride

Deutsche Kurzzusammenfassung

Neid entsteht durch einen frustrierenden Aufwärtsvergleich und führt zu diversen affektiven Veränderungen, Kognitionen und Verhaltenstendenzen, die darauf abzielen, den Statusunterschied zwischen dem Neider und der beneideten Person zu verringern. Gutartiger Neid erhöht Anstrengungen, den Status des Neiders zu verbessern, wohingegen bösartiger Neid Anstrengungen erhöht die Stellung der beneideten Person zu schädigen. Trotz ihrer Wichtigkeit ist die Auslösung von Neid noch wenig verstanden. Um diese Lücke zu schließen, schlage ich ein Modell der Auslösung von Neid vor, in dem Evaluationen der persönlichen Kontrolle über die Erlangung des status-einbringenden Standards der beneideten Person und der Verdientheit des Vorteils die diversen Komponenten von Neid koordinieren—eine Konzeptualisierung von gutartigem und bösartigem Neid als sozial-funktionale Emotionssyndrome. Dispositionale und situative Determinanten, die die Evaluationen beeinflussen, sollten folglich entweder gutartigen oder bösartigen Neid auslösen. Im Einklang mit dieser Vorhersage demonstriert Kapitel 2, dass verschiedene Formen von Leistungsmotivation Neid modulieren, was mit dem Gedanken im Einklang ist, dass sie auf theoretischer Ebene mit der Evaluation der persönlichen Kontrolle zusammenhängen. Hoffnung auf Erfolg steht in Beziehung mit dispositional gutartigem Neid, wohingegen letzterer mit erhöhter Performanz von Langläufern korreliert ist. Im Gegensatz dazu steht Angst vor Misserfolg in Beziehung mit dispositional bösartigem Neid, wohingegen letzterer mit der Vermeidung eines Zeitziels assoziiert ist. Weiterhin demonstriert Kapitel 3, dass der Stolzausdruck überlegener Personen den Neid von Beobachtern durch vermittelte affektive und schlussfolgernde Informationen moduliert, was mit dem Gedanken im Einklang ist, dass er auf theoretischer Ebene mit Evaluationen der Verdientheit und persönlichen Kontrolle zusammenhängt. Ausdruck von authentischem Stolz wirkt sympathisch und vermittelt Status in der Form von Prestige, was gutartige Neidabsichten und Verhaltensweisen erhöht. Ausdruck von hybristischem Stolz wirkt unsympathisch und vermittelt Status in der Form von Dominanz, was bösartige Neidabsichten und Verhaltensweisen erhöht. Zusammengenommen unterstützt die Evidenz das Modell zur Auslösung von Neid. Basierend auf dieser Konzeptualisierung hebe ich Möglichkeiten für zukünftige Forschung bezüglich der Koordination von untersuchten als auch vernachlässigten Komponenten von Neid hervor und auch wie dieser Ansatz zur Emotionsforschung allgemein beitragen kann.

Schlagwörter: gutartiger und bösartiger Neid, Emotionsauslösung, Emotionssyndrom, Leistungsmotivation, authentischer und hybristischer Stolz

STRUCTURE

1. Chapter 1 – Introduction

„Worth begets in base minds, envy; in great souls, emulation.“
Henry Fielding

„That some are poorer than others, ever was and ever will be: And that many are naturally querulous and envious, is an Evil as old as the World.“
William Petty

Scholars and the public alike widely regard it as a matter of fact that envy is based on agonizing inferiority and pure evil. Purportedly, envy arises in weak, ill-minded individuals and gives rise to severe repercussions. In biblical writings, envy motivated Cain to slay his brother and caused the Romans to torture and eventually crucify Jesus (Aquaro, 2004). Moreover, the noble cherub who began to burst with pride and to desire God's advantages transformed into the incarnation of evil—Lucifer—ultimately prompting his fall from heaven (Rhodes, 2015). Furthermore, historians suppose that Adolf Hitler loathed the successes of Jews, which ultimately fueled his desire to expel and systematically murder them (Smith, 2014). Complementarily, envy is also said to be crucially incited by structural properties of societal systems (Schoeck, 1969). In dictatorships, the destiny of a country is determined by a single, powerful person. This concentration of status and influence presumably fosters envy, thereby leading to revolutions such as the disempowerment of Khrushchev. In addition, even communist systems, which aim at actively preventing envy by establishing equality, allegedly foster strong begrudging responses to unavoidable small differences between humans. Carried to the extreme, the envy inherent in political systems is sometimes used to characterize society as a whole, as reflected in the German term *Neidgesellschaft* (a society full of envy; Bolzano, 2007). Similarly, legitimate criticism of asymmetrically distributed wealth is plainly discounted as *Neiddebatte* (debate based on envy; Weingartner, 2014; see also Smith, 2015).

Thus, personality characteristics and social factors stimulating envy seem to trigger no outcomes that serve meaningful functions, neither for the individual nor for society. In accordance with the stigma of a deadly sin, envy's supposed intention is nothing but vicious destruction. Yet, this uniformly negative view collides with recent research on the multifaceted nature of envy. In line with social-functional approaches to emotions, envy regulates social hierarchies by either motivating enviers to increase personal performance—*benign envy*—or harm the envied person's position—*malicious envy* (Van de Ven, Zeelenberg, & Pieters, 2009). If envy's two forms constitute distinct functional pathways to level status differences, the question arises: Which personality characteristics and social factors determine benign or malicious envy?

In the current dissertation I propose a model for the elicitation of envy. In order to devise such a model, I will first outline a conceptualization of envy as an emotion syndrome. On the

basis of this conceptualization, I integrate previous findings regarding general catalysts of envious reactions and I delineate how distinct dispositional and situational moderators might link envy to self-improvement and harmful tendencies. I predict that dispositional and situational variables influencing how the status-yielding standard of the other person is appraised should ultimately shape envy. As a test of this model, I relate forms of achievement motivation—hope for success and fear of failure (McClelland, Atkinson, Clark, & Lowell, 1953)—to dispositional propensities of benign and malicious envy, and ultimately envy-driven behavior. Furthermore, I present evidence relating superior individuals' pride displays as either authentic or hubristic pride (Tracy & Robins, 2007) to benignly and maliciously envious responses, respectively.

1.1 A Conceptualization of Envy

Envy is an emotionally frustrating response when someone lacks another's superior quality, achievement, or possession (e.g., Parrott & Smith, 1993). Put differently, envy occurs after threatening upward social comparisons—the basis of each envy episode. In light of the ubiquity of upward standards and social comparisons in general (Mussweiler, 2003), envy is most likely a common experience even if often denied (Foster, 1972; Smith & Kim, 2007). Most previous research converged on the notion that enviers react to such comparisons with strong resentment and harmful behavior. This pattern was called *envy proper* (for a review see Smith & Kim, 2007). Yet, when people were asked to report on envy experiences, they recalled two qualitatively different forms (Van de Ven et al., 2009). Next to the malicious manifestation of envy, a second form emerged that entails self-improvement behavior following the threatening comparison. Both pathways—improving the self and harming the other's position—consequently level the difference between the self and the envied person either by *leveling up the self* or *leveling the other down* (Van de Ven et al., 2009). Interestingly, the conceptual distinction between benign and malicious envy maps onto linguistic distinctions in various languages. For instance, the German terms *beneiden* and *missgönnen* both translate into the English term *to envy*. Similar distinctions exist in Dutch (*benijden* and *afgunst*), Russian (*white* and *black envy*), or Arabic (*ghibtah* and *hasad*). Nevertheless, even in languages such as English or Spanish where only one word corresponds to envy, people still recall two different forms. In all these cases, one form refers to benign envy and one form refers to malicious envy (Van de Ven et al., 2009).

I argue that the distinction between benign and malicious envy resonates with functional (Hill & Buss, 2008; Keltner & Gross, 1999) and in particular *social-functional* approaches to emotions (Fischer & Manstead, 2008; Keltner & Haidt, 1999; Manstead & Fischer, 2001). According to these approaches, emotions evolved as adaptive responses to environmental challenges. Being worse-off in important comparison situations might have detrimental effects on

mating success or access to other valuable resources. Therefore, envy is especially frequent when men lack popularity or financial success and when women feel unattractive (DelPriore, Hill, & Buss, 2012). Envy's environmental challenge is inherently social. Envy is inevitably (at least) dyadic, as it can be elicited only in response to another person's advantage. If envy's social goal is to level the difference between the self and the envied person, it most likely evolved to establish and maintain social hierarchies, a key social function of emotions (Fischer & Manstead, 2008). In benign envy, the envier engages in behavior to achieve a higher position in the hierarchy. In contrast, in malicious envy, the envier engages in behavior to reduce the envied person's higher hierarchical position. Thus, envy can be regarded as a social-functional response to status differences. It might serve humans' fundamental desire to be respected, admired, and influential (Anderson, Hildreth, & Howland, 2015). Yet, so far this approach is limited in its ability to unravel the complexities of the elicitation of envy. In order to derive a model I contend that it is important to take the dynamic interplay of various components of benign and malicious envy into account.

Recent research with respect to the components of envy predominantly investigated communalities and differences of benign and malicious envy. It revealed that both are caused by equal levels of frustration (Crusius & Lange, 2014) but they differ with respect to their affective, cognitive, and motivational components. Benign envy entails more admiration and positive thoughts about the envied person (Crusius & Lange, 2014; Van de Ven et al., 2009), attentional focus on means to reach the upward goal (Crusius & Lange, 2014), desire for the envy object (Crusius & Mussweiler, 2012), and motivational striving for improvement (Van de Ven, Zeelenberg, & Pieters, 2011a). Regarding cognitive underpinnings of its elicitation, benign envy relates to appraisals of high personal control over future outcomes and appraisals of deservingness of the envied person's advantage (Lange, Crusius, & Hagemeyer, 2015; Van de Ven, Zeelenberg, & Pieters, 2011b). Malicious envy entails resentment and negative thoughts about the other (Crusius & Lange, 2014; Smith, Parrott, Ozer, & Moniz, 1994; Van de Ven et al., 2009), as well as attentional focus on the envied person (Crusius & Lange, 2014; see also Hill, DelPriore, & Vaughan, 2011). Previous research that focused exclusively on malicious envy indicates that it is also the engine for motivational striving to harm advantaged others via cheating (Moran & Schweitzer, 2008), undermining their social status (Duffy, Scott, Shaw, Tepper, & Aquino, 2012), destroying their advantages even at the expense of personal costs (Zizzo & Oswald, 2001), and feelings of *Schadenfreude* (pleasure at the other's misfortune; Van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006; Smith et al., 1996; Van de Ven et al., 2015). Regarding cognitive underpinnings of its elicitation, malicious envy relates to appraisals of low personal control over future outcomes (or at least less control than benign envy) and appraisals of undeservingness of the envied person's advantage (Lange et al., 2015; Van de Ven et al., 2011b).

How can these diverse findings be integrated to a coherent conceptualization of envy? In

essence, I propose that the differences between benign and malicious envy are coordinated strategies. Distinct appraisals guide distinct affective, cognitive, and motivational components of emotional responding. These components simultaneously foster progress towards the distinct social goal that each form of envy relates to. Such an approach integrates emotion theories based on appraisals (e.g., Ellsworth & Scherer, 2003) and motivational goals (e.g., Roseman, Wiest, & Swartz, 1994)—a view of emotions as syndromes (e.g., Reisenzein, 2000; Roseman, 2013; Wallbott & Scherer, 1989). It defines emotions as appraisal-driven organized response patterns in which different components are probabilistically correlated with each other. Put differently, individuals constantly evaluate the environment with respect to certain dimensions. Once a specific pattern of appraisals is encountered, an emotion and its corresponding components are elicited. As all components simultaneously foster progress towards the emotion's goal, they are positively correlated. For instance, surprise is elicited when a situation is appraised as unexpected. This appraisal leads to the experience of surprise, the interruption of ongoing action, attentional focus on the unexpected stimulus, and an evaluation of it. The intensities of these affective, cognitive, and motivational components are positively correlated with each other (Reisenzein, 2000). Thus, the appraisal of unexpectedness coordinates all components of the surprise syndrome.

Applied to envy, appraisals of personal control and deservingness should coordinate affective, cognitive, and motivational components of benign and malicious envy as both are associated with the envy forms (Lange et al., 2015; Van de Ven et al., 2011b). Specifically, in benign envy the frustrating situation is appraised as highly controllable and the envied person's status is perceived as deserved. Perceiving the other's higher status as deserved might increase admiration (Feather, 2006). High personal control translates into the general perception of ability to change current circumstances (Roseman, 2013). This might tune attention to means for improvement and guide self-improvement motivation (Bandura, 1977). These components are coordinated strategies to reach benign envy's social goal of leveling up the self. In malicious envy, the frustrating situation is appraised as difficult to control and the envied person's status is perceived as undeserved (Lange et al., 2015; Van de Ven et al., 2011b). Perceptions that the other's higher status is undeserved might increase resentment (Feather, 2006), a feeling related to a shift of personal responsibility to the other person (see Smith, 2000; Van de Ven et al., 2009, 2011b). Thus, perceiving outcomes as undeserved might tune attention towards the other person. Low personal control translates into the general perception of inability to change current circumstances (Roseman, 2013). Nevertheless, in helpless states individuals may still lash out—especially towards those who subjected them to their worse position, such as in shame situations (Tangney, Wagner, Fletcher, & Gramzow, 1992). In particular, when a person is publicly devalued based on stable, uncontrollable personality characteristics, anger is a frequent reaction (see also Smith, Webster, Parrott, & Eyre, 2002). Therefore, low personal control can guide harmful behavior. These components are coordinated strategies to

reach malicious envy's goal of leveling the envied person down.

Note that the aforementioned reasoning suggests that the appraisal dimensions are each linked to only a subset of the affective, cognitive, and motivational components of benign and malicious envy. In particular, for benign envy, deservingness should relate to the affective component (admiration), whereas personal control should relate to the cognitive (means focus) and motivational (improvement motivation) components. For malicious envy, deservingness should relate to the affective (resentment) and cognitive (person focus) components, whereas personal control should relate to the motivational component (harming intentions). This distinct mapping is further supported by other recent evidence. First, the mapping predicts that personal control may play a stronger role in the elicitation of benign envy, whereas deservingness may play a stronger role in the elicitation of malicious envy. This prediction was recently supported by correlational evidence (Lange et al., 2015). Nevertheless, these distinct links still foster progress towards the same social goals of benign and malicious envy and may, therefore, lead to a positive correlation between all respective components of each envy form (for a similar approach to disentangle different components of shame see Gausel, Leach, Vignoles, & Brown, 2012). Second, another prediction following from this mapping is that state benign and malicious envy should be negatively correlated, because both appraisal patterns necessarily contradict each other. High deservingness simultaneously increases admiration and decreases resentment as well as the person focus. High personal control simultaneously increases a means focus as well as self improvement tendencies and decreases harming intentions. In line with this reasoning, recent research provides evidence for a negative correlation between state benign and malicious envy (Crusius & Lange, 2014). Note that this prediction may not hold for dispositional envy as people could respond with benign envy in one situation but with malicious envy in another, even suggesting a positive correlation between the two.

In sum, I conceptualize envy as a social-functional emotion that is based on a frustrating upward comparison, causing either upward-directed consequences—benign envy—or socially harmful consequences—malicious envy. Accordingly, the two envy forms are distinct emotion syndromes driven by appraisals of personal control and deservingness and directed at leveling the status difference between the self and the envied person. The coordinated strategies of benign envy entail admiration for the envied person (affective), an attentional focus on means for improvement (cognitive), and upward motivated striving (motivational; e.g., Crusius & Lange, 2014; Van de Ven et al., 2009, 2011a). The coordinated strategies of malicious envy entail resentment for the envied person (affective), an attentional focus on the competitor (cognitive), and motivated striving to harm the other's position (motivational; e.g., Crusius & Lange, 2014; Duffy et al., 2012; Van de Ven et al., 2009). As humans' pursuit for status is fundamentally entrenched in their self-concept (Anderson et al., 2015), envy is socially-functional with respect to establishing and maintaining social hierarchies.

This conceptualization clarifies two further points. First, it contradicts a unitary view of

envy in which frustration, in response to an unfavorable upward comparison, is the sole engine of either constructive or destructive consequences (Cohen-Charash & Larson, in press; Tai, Narayanan, & McAllister, 2012). Critically, the unitary view is mute with respect to how frustration can lead to these diverging outcomes, a theoretical gap clearly outlined in the emotion syndrome approach. Specifically, in the unitary approach, scholars need to incorporate a multitude of different moderators that predict how frustration leads to either constructive or destructive consequences (see Tai et al., 2012)—a possibly infinite list. In contrast, an emotion syndrome approach is more parsimonious, because two appraisal dimensions coordinate the elicitation of envy's components—a rather parsimonious approach. Second, the current conceptualization of envy also helps to distinguish it from other related emotions. Envy is often confused with jealousy. However, jealousy occurs when someone is afraid of losing something to a competitor, whereas envy occurs when someone lacks another's advantage (Parrott & Smith, 1993), suggesting different underlying goals. Furthermore, benign envy resembles admiration. Yet, admiration is a positive emotion (Crusius & Lange, 2014; Van de Ven et al., 2009, 2011b), is not based on social comparison processes (Crusius & Lange, 2014; Van de Ven et al., 2009), and does not foster self-improvement in the respective domain (Van de Ven et al., 2011a) but rather general emulation (Schindler, Paech, & Löwenbrück, 2015). Finally, malicious envy resembles resentment. Yet, resentment is not based on social comparison processes (Crusius & Lange, 2014; Van de Ven et al., 2009) and is elicited by objectively unfair situations that violate justice-based rules and not situations appraised as subjectively undeserved (Leach, 2008; Smith et al., 1994; Van de Ven et al., 2011b).

1.2 The Elicitation of Envy

The current conceptualization of envy serves as a vital starting point to devise a model for the elicitation of envy (see Figure 1.1). Accordingly, the central element of the model is an upward social comparison that elicits frustration in the comparer. This comparison process underlies every envy situation. Therefore, the first crucial pathway in understanding the elicitation of envy concerns factors that increase the frequency of upward comparisons as well as the accompanying frustration and therefore generally increase the probability of envy. Previous research focused exclusively on this pathway. It revealed that envious responses intensify when individuals have a higher propensity to compare (White, Langer, Yariv, & Welch, 2006) and when individuals are more likely to imagine how situations could have turned out differently (Van de Ven & Zeelenberg, 2015). Furthermore, in line with research on social comparisons and their consequences (Tesser, 1988), envy occurs more frequently towards similar others (Schaubroeck & Lam, 2004) and in domains of high relevance to the self (DelPriore et al., 2012; Salovey & Rodin, 1984). These factors transform ordinary comparison situations into competitions and therefore increase an individual's *comparison concern*—the

desire to reach a superior position relative to another in a particular domain (Garcia, Tor, & Schiff, 2013). Thus, variables increasing comparison concern enhance envy by fostering the frequency of social comparisons and their resulting frustration (see Figure 1.1). Given the general effect of comparison concern it probably increases both envy forms simultaneously. Therefore, previous research is mute with respect to how certain factors may distinctively elicit all components of benign and malicious envy.

In contrast, my conceptualization of benign and malicious envy as social-functional emotion syndromes allows to derive specific predictions. Subsequent to the social comparison, the envier appraises felt personal control and deservingness of the status-yielding standard set by the envied person. These appraisals may coordinate the affective, cognitive, and motivational components of benign and malicious envy. When the envier perceives high personal control and the other person's high standard is appraised as deserved, benign envy occurs (Van de Ven et al., 2011b). If the envier perceives low personal control and the other person's high standard is appraised as undeserved, malicious envy occurs (Van de Ven et al., 2011b). Based on the conceptualization that benign and malicious envy are coordinated strategies driven by appraisals, I hypothesize that dispositional or situational factors affecting how the status-yielding standard of the envied person is appraised should ultimately elicit either benign or malicious envy. Thus, it is not necessary to incorporate a multitude of moderators into the model to predict how each component is elicited individually, which the unitary approach requires (Tai et al., 2012). Therefore, my model is again more parsimonious. But which dispositional and situational variables might affect personal control and deservingness and might thereby be pivotal in modulating envy?

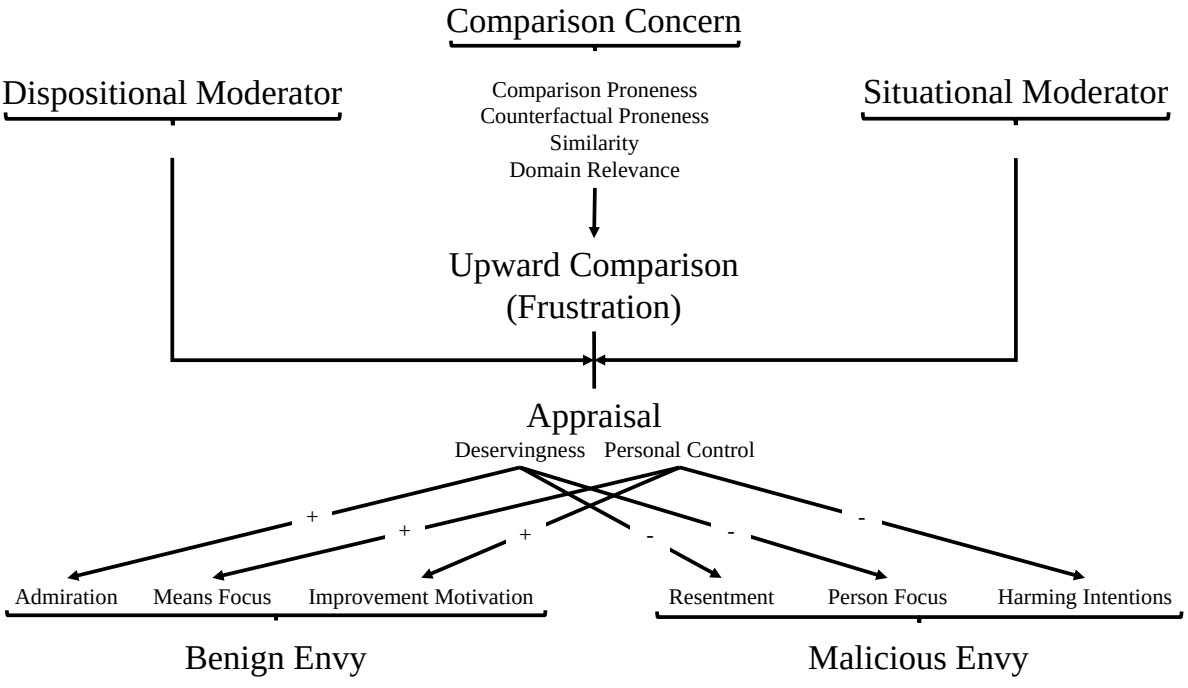

Figure 1.1. A model for the elicitation of envy.

The envied person's high standard for which observers confer status can be regarded as a standard of excellence. As described above, the goal to reach this standard underlies benign envy, whereas the goal to prevent falling short of this standard underlies malicious envy. These motivational inclinations map onto distinct forms of achievement motivation—the central personality characteristic assessing how individuals deal with a standard of excellence (McClelland et al., 1953). Put differently, distinct forms of the achievement motive might be the general engine fueling benign and malicious intentions. On the one hand, individuals with pronounced *hope for success* optimistically pursue goals to reach a standard. This should amplify perceived personal control in response to upward comparisons (as a result of setting attainable goals and task enjoyment, Lang & Fries, 2006) and therefore stimulate benign envy (see Van de Ven et al., 2011b), more precisely, the cognitive and motivational components (see Figure 1.1). If the envier can effectively implement the intention to improve personal performance, hope for success would eventually serve benign envy's social function of reaching the standard and thereby gaining status. On the other hand, individuals with a pronounced *fear of failure* try to avoid falling short of the standard. This should undermine perceived personal control in response to upward comparisons (as a result of setting unattainable goals, task anxiety, and worry, Lang & Fries, 2006) and therefore stimulate malicious envy (see Van de Ven et al., 2011b), more precisely, the motivational component (see Figure 1.1). Encountering the envied person then creates the envier's feared situation of exposure to the unreachable upward standard. As fear of failure is not systematically related to increased performance (Lang & Fries, 2006), it probably triggers strategies to decrease the status of an individual that the envier cannot achieve. Therefore, fear of failure would eventually serve malicious envy's social function. Thus, I hypothesize that the personality characteristics of hope for success and fear of failure modulate envy toward its benign or malicious form, respectively. In line with my model of the elicitation of envy, I predict that achievement motivation (as it relates to the appraisal of personal control) differentiates benign and malicious envy most strongly for the motivational component.

Which situational factors might shape appraisals of personal control and deservingness? The appraisal dimensions concern the status-yielding standard of the envied person. It logically follows that envy should be a social-functional response to displays and behaviors of the envied person as these might affect how the standard is appraised. Despite the fact that envy is inherently social, the envied person has been tacitly neglected in research on envy elicitation. In contrast, I argue that features of the envied person are crucial for understanding how envy evolves into its benign or malicious form. If envy's social function is to establish and maintain status hierarchies, it should be enhanced by status displays of the competitor above and beyond mere high achievement. Crucially, the most prevalent and effective means of conveying status to observers is to display pride (e.g., Martens, Tracy, & Shariff, 2012; Shariff & Tracy, 2009; Tracy, Shariff, Zhao, & Henrich, 2013), even when contextual information contradicts this

assessment (e.g., when a homeless person displays pride; Shariff, Tracy, & Markusoff, 2012). In line with social-functional approaches to emotions, pride displays should affect observers' responses by conveying specific affective (e.g., liking) and inferential (e.g., how status was achieved) information (Van Kleef, 2009; Van Kleef, Van Doorn, Heerdink, & Koning, 2011). Broadening this dynamic, like envy, pride has two forms (Tracy & Robins, 2007). When success is attributed to internal, unstable, controllable causes (e.g., effort), individuals experience *authentic pride*. When success is attributed to internal, stable, uncontrollable causes (e.g., talent), individuals experience *hubristic pride*. As such attribution patterns can be inferred by observers (Hareli & Hess, 2010), the pride forms convey different affective and inferential information. Authentic pride is *likable* and conveys status in the form of *prestige*—respect for one's achievement (Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Cheng, Tracy, & Henrich, 2010). Accordingly, liking should foster appraisals that the envied person's advantage is deserved (Feather, 1999). In addition, prestige conveys the idea that the superior person is willing to share skills and know-how, which might increase perceptions of personal control by turning the envied person into a means for improvement (see Crusius & Lange, 2014). Therefore, authentic pride displays should enhance benign envy (see Van de Ven et al., 2011b). In contrast, hubristic pride is *less likable* and conveys status in the form of *dominance*—inducing fear to keep others in their place (Cheng et al., 2013, 2010). Reduced liking should foster appraisals that the envied person's advantage is undeserved (Feather, 1999). In addition, dominance conveys the idea that the social hierarchy is fixed, which might decrease the perception of personal control as a result of low perceived mutability (see Hays & Bendersky, 2015). Therefore, hubristic pride displays should enhance malicious envy (see Van de Ven et al., 2011b). Thus, I predict that the envied person's display of authentic or hubristic pride modulates envy toward its benign or malicious form, respectively. As the conveyed information of pride displays affects both appraisal dimensions simultaneously, their effects should occur for all components of benign and malicious envy.

1.3 The Current Research

I propose that benign and malicious envy can be conceptualized as social-functional emotion syndromes in which appraisals of personal control and deservingness coordinate affective, cognitive, and motivational components directed at leveling a status difference between the self and the envied person. To understand the elicitation of benign and malicious envy, it is therefore vital to investigate dispositional and situational variables that might affect appraisals of the status-yielding standard set by the envied person.

In Chapter 2, I focus on dispositional variables modulating envy. I demonstrate that conceptualizing envy as comprising both benign and malicious forms meaningfully explains the diverse effects of envy at the trait level. Crucially, dispositional benign and malicious envy

relate to distinct forms of achievement motivation—hope for success and fear of failure—changing how the standard set by the envied person is perceived. Based on these motivational engines, further evidence then links dispositional benign envy to higher goal setting and increased performance in long-distance runners, whereas dispositional malicious envy correlates with avoidance of specific goals.

In Chapter 3, I focus on situational variables modulating envy. I present evidence regarding superior individuals' pride displays as a social variable modulating envy toward its benign or malicious form. In particular, authentic pride displays are likable and convey status in the form of prestige, thereby modulating envy toward its benign form. In contrast, hubristic pride displays are less likable and convey status in the form of dominance, thereby modulating envy toward its malicious form. The evidence supports the notion that pride displays enhance the corresponding forms of envy above and beyond mere high achievement when either authentic or hubristic pride information is conveyed by the envied person. Finally, pride displays affect benignly and maliciously envious intentions as well as envy-driven behavior.

Note that Chapters 2 and 3 are based on separate published manuscripts. Therefore, each chapter has its own introduction and discussion. Redundancy is unavoidable. In Chapter 4, I will discuss the overarching implications, future research opportunities, and limitations of the model presented here.

2. Chapter 2 — Dispositional Envy Revisited

Abstract

Previous research has conceptualized dispositional envy as a unitary construct. Recently however, episodic envy has been shown to emerge in two qualitatively different forms. Benign envy is related to the motivation to move upward, whereas malicious envy is related to pulling superior others down. In four studies ($N = 1,094$)—using the newly developed Benign and Malicious Envy Scale (BeMaS)—we show that dispositional envy is also characterized by two independent dimensions related to distinct motivational dynamics and behavioral consequences. Dispositional benign and malicious envy uniquely predict envious responding following upward social comparisons. Furthermore, they are differentially connected to hope for success and fear of failure. Corresponding to these links, dispositional benign envy predicted faster race performance of marathon runners mediated via higher goal setting. In contrast, dispositional malicious envy predicted race goal disengagement. The findings highlight that disentangling the two sides of envy opens up numerous research avenues.

As a marketer, it would require tremendous effort to advertise envy. According to Catholic beliefs, it is a deadly sin and Cain's murder of Abel is only one of the many Biblical warnings of the dangers of this emotion. Similarly, many fictional portrayals of envious characters such as Shakespeare's Iago in Othello or Pushkin's Salieri paint a grim picture of people who are consumed by envy, which motivates them to their dastardly deeds. These depictions of envy not only imply that there are stable inter-individual differences in the tendency to experience envy, they may also have contributed to a rather negative view of envy in society. Much research confirms the socially destructive power of envy (Smith & Kim, 2007). Yet, semantic distinctions in several languages, such as the different Russian terms for black and white envy, suggest that another form of envy exists. One that is similarly characterized by frustrated desire but lacks the hostility of its vicious counterpart. Indeed, recent research on state envy has revealed that there is a more benign kind of envy, which elicits upward motivation (e.g., Crusius & Lange, 2014; Van de Ven, Zeelenberg, & Pieters, 2009). Thus, envy can have distinct motivational consequences. Benign envy increases the motivation to invest more effort to improve one's own position. In contrast, malicious envy increases the motivation to harm an envied person's success. Here we show that to understand how people differ in their chronic susceptibility to experience envy and to explain its motivational tendencies, it is necessary to distinguish between these two kinds of envy also on the trait level. Doing so sheds light on the distinct motivational dynamics of envy by linking each envy form to global motivational dispositions and to concrete behavior.

2.1 Social Comparison and Envy

Envy is defined as a negative emotional response to another person's superior quality, achievement, or possession, in which the envier either desires the advantage or wishes that the envied person lacks it (Parrott & Smith, 1993; Smith & Kim, 2007). In its essence, envy is always based on an upward social comparison. Such a comparison is particularly likely to result in envy if it is directed toward similar others and if it concerns domains of high relevance to the self (Salovey & Rodin, 1984).

Social comparisons are a fundamental element of human cognition. People engage in social comparisons habitually (e.g., Corcoran, Crusius, & Mussweiler, 2011; Mussweiler, 2003) and automatically (Mussweiler, Rüter, & Epstude, 2004), explaining why envy is such a common and culturally universal experience (Foster, 1972). Nevertheless, people also vary systematically in their propensity to compare themselves with others (Gibbons & Buunk, 1999). Therefore, it is safe to predict that they will also exhibit stable inter-individual differences in their propensity to experience envy. In fact, much evidence has firmly established that dispositional envy exists and that it determines important psychological and behavioral outcomes (Gold, 1996; Smith, Parrott, Diener, Hoyle, & Kim, 1999; Veselka, Giammarco, & Vernon, 2014). Importantly, however, these efforts to measure envy as a trait have not taken into account that, at the state level, two qualitatively different forms of envy exist: benign and malicious envy.

2.2 Benign and Malicious Envy

Envy has consistently been referred to as a deadly sin, implying that malicious tendencies are an essential element of envy. However, prominent scholars and intellectuals such as Aristotle (1929), Dorothy L. Sayers (1969), and John Rawls (1999) have observed that another kind of envy exists. This benign, emulative form of envy can increase the desire to get what the envied person has, but lacks the hostility characterizing its malicious counterpart. In many languages, there are two different words for envy, substantiating such a distinction. For instance, in Dutch, there are the words *benijden* and *afgunst*, and in German this is paralleled by the words *beneiden* and *missgönnen* (Crusius & Lange, 2014; Van de Ven et al., 2009). The first word implies a more upward motivating form of envy, whereas the second word designates envy's hostile form. Perhaps the clearest occurrence of this etymological difference is present in Russian, in which there is *white* and *black envy*. Still, even in languages that allow a semantic distinction of the two forms of envy, there may also exist an inclusive term. For example, in German, the words *Neid* (envy) and *neidisch* (envious) capture both envy forms simultaneously. At the same time, languages such as English or Spanish have only one word for envy. Nevertheless, when speakers of these languages are asked to report such an instance,

they report one of two qualitatively distinct emotional episodes matching the distinction between benign and malicious envy (Van de Ven et al., 2009). Thus, there is evidence that the two forms of envy exist independently of language differences.

From a functionalist perspective, the two forms of envy may reflect two different routes through which people can achieve the goal to level the difference between the self and a superior comparison standard (Van de Ven et al., 2009). On the one hand, in *benign envy*, enviers may try to level themselves up to become as successful as the other person. This notion is supported by findings showing that envy can increase personal effort (Schaubroeck & Lam, 2004; Van de Ven, Zeelenberg, & Pieters, 2011c), propel behavior aimed at obtaining a desired object (Crusius & Mussweiler, 2012), and shift attention toward means to attain it (Crusius & Lange, 2014). Recent research suggests that envy-eliciting situations result in benign envy if the envied person's advantage is evaluated as subjectively deserved and if the envier perceives high control over personal outcomes (Van de Ven, Zeelenberg, & Pieters, 2011a).

On the other hand, in *malicious envy*, enviers may try to level the envied person down, decreasing or denigrating the advantage of the other. This notion is supported by findings showing that envy can increase schadenfreude (Smith et al., 1996; Van de Ven et al., 2014; Van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006), lead to hostile and resentful behaviors (Duffy, Scott, Shaw, Tepper, & Aquino, 2012; Salovey & Rodin, 1984), and shift attention toward the envied person (Crusius & Lange, 2014; Hill, DelPriore, & Vaughan, 2011). Envy-eliciting situations result in malicious envy if the envied person's advantage is evaluated as subjectively undeserved and the envier experiences less control over personal outcomes (Van de Ven et al., 2011a). Nevertheless, both forms of envy involve equivalent degrees of highly negative affect and frustration (e.g., Crusius & Lange, 2014).

In spite of substantial evidence in favor of the two forms of envy at the state level (Belk, 2011; Crusius & Lange, 2014; Van de Ven et al., 2009; Van de Ven et al., 2011a; Van de Ven, Zeelenberg, & Pieters, 2011b; Van de Ven et al., 2011c), this distinction has not been taken into account in the investigation of dispositional envy.

2.3 Existing Trait Measures of Envy

Three scales have been introduced to measure trait envy, all of them conceptualizing it as a single dimension. However, what form of envy was focal in these scales, benign or malicious envy?

First, Gold (1996) developed the York Enviousness Scale. Although he cites work connecting envy to improvement motivation, Gold explicitly differentiates covetousness from it. Instead, the scale is focused on resentment and ill will. These emotional facets should be indicators of malicious but not of benign envy. In addition, the scale correlates positively with

anger and hostility, which, according to our reasoning, reflect only malicious envy.

Second, Smith et al. (1999) developed the Dispositional Envy Scale (DES), which is the most widely used measure of envy as a personality trait. The scale is composed of items measuring inferiority, ill will, frustration, and perceptions of injustice. It correlates with negative self-esteem, depression, neuroticism, hostility, and resentment. With the exception of frustration and a sense of inferiority, which should characterize both benign and malicious envy, most of the emotional facets and correlates of the DES should again be indicative of malicious but not of benign envy.

Finally, Veselka et al. (2014) recently developed the Vices and Virtues Scale to measure dispositional tendencies to commit deadly sins, including a subscale to measure envy. Their items also focus on resentment and anger, and should thus be concerned only with malicious envy.

2.4 Dispositional Benign and Malicious Envy and Their Motivational Dynamics

In summary, dispositional envy is a comparison-based emotional trait that leads to frustration when people are confronted with an upward standard. However, parallel to state envy, we predict that there are two forms of dispositional envy, namely dispositional benign and malicious envy. Apart from the aforementioned commonalities, they should be uniquely connected to distinct motivational dynamics and, ultimately, to distinct envious behavior. In that sense, differentiating between two forms of envious responding at the trait level should allow to elucidate how dispositional envy predicts these outcomes and which form explains the specific relationships. What are the important constructs related to envy and how are dispositional benign and malicious envy uniquely connected to them?

Most importantly, as described above, envy is related to a multitude of motivational goals that may result from upward comparisons. In general, envy's functional goal is to level the difference between the self and the envied person (Van de Ven et al., 2009). In the case of benign envy, the envier tries to level up whereas in the case of malicious envy, the envier tries to level the envied person down. Thus, in both envy forms, the envier is concerned with a standard of excellence—the level of the envied person—in a domain of high relevance to the self (Salovey & Rodin, 1984). Situations in which individuals are concerned with a personally important standard of excellence trigger the achievement motive (McClelland, Atkinson, Clark, & Lowell, 1953). The achievement motive also has two components that differ in how individuals respond to this standard of excellence: hope for success and fear of failure (Atkinson, 1957). Hope for success leads to an approach toward the standard, whereas fear of failure leads to avoidance of failing to reach it. We contend that these motivational tendencies fuel dispositional benign and malicious envy and explain their distinct behavioral patterns.

The optimistic disposition of hope for success should lead to appraisals of perceived control over future outcomes. In other words, it should be connected to perceiving oneself as capable of achieving success. In an upward comparison situation, the standard of excellence is represented by the level of the envied person. Given that enviers perceive personal control over the ability to reach this standard, benign envy should be spurred (Van de Ven et al., 2011a). Therefore, hope for success should predict dispositional benign envy and lead to motivated behavior directed at achieving this standard. This is in line with previous findings that have linked state envy to upward-directed motivational tendencies (Crusius & Lange, 2014; Van de Ven et al., 2011c). As previous research on dispositional envy did not investigate benign envy, this relationship awaits empirical scrutiny.

In contrast, we predict that dispositional malicious envy is fueled by a general motivation to avoid falling short of a standard of excellence. Such a pessimistic disposition should lead to an appraisal of low perceived control over future outcomes. Low control, in turn, is linked to malicious envy (Van de Ven et al., 2011a). In this case, enviers perceive an inability to ever reach the standard. From a functional perspective, in such a situation, it makes more sense to alter the standard to decrease the threat resulting from it. In an upward comparison, this implies that the envier tries to harm the envied person's success. Therefore, fear of failure should be related to dispositional malicious envy and ultimately avoidant behavior toward this standard. This is in line with previous findings linking state envy to hostile motivational tendencies (Smith & Kim, 2007). As previous scales measuring dispositional envy were—presumably—mostly concerned with dispositional malicious envy, this reasoning might also explain why the DES has been linked to antisocial behavior such as diminished cooperation in social dilemmas (Parks, Rumble, & Posey, 2002) and chronic schadenfreude about others' misfortune (Krizan & Johar, 2012).

In summary, recent research on episodic envy suggests that a one-dimensional conceptualization of envy does not capture the full spectrum of the motivational dynamics related to experiences of envy and envious responding. We contend that, similar to the state level, there are two distinct forms of envy at the trait level: dispositional benign and malicious envy. In what follows, we report four studies investigating this possibility. In Study 2.1, we develop the Benign and Malicious Envy Scale (BeMaS). In Study 2.2, we demonstrate convergent and discriminant validity of the BeMaS. We show that dispositional benign and malicious envy dissociate motivational intentions to improve personal performance from motivational intentions to harm when people are confronted with an upward comparison standard. In Study 2.3, we demonstrate that hope for success is linked to the motivational tendencies of dispositional benign envy. However, fear of failure and less hope for success are linked to the motivational tendencies of dispositional malicious envy. Study 2.4 shows that the motivational dynamics of dispositional benign and malicious envy translate into the race performance of long-distance runners.

2.5 Study 2.1

The goal of Study 2.1 was to develop a measure for dispositional benign and malicious envy.

2.5.1 Method.

Participants. We recruited 365 participants[1] from Amazon Mechanical Turk (MTurk) with a mean age of 25.69 years ($SD = 8.91$) of which 258 were male.

Materials and procedure. Initially, we generated 23 items potentially measuring dispositional benign envy and 25 items potentially measuring dispositional malicious envy based on previous research on the experience, motivational consequences, and action tendencies of the two emotions. We instructed participants that the items referred to situations in which they lack another's superior quality, achievement, or possession and either desire it or wish the other lacks it. This was done to prevent any confusion regarding the terms *envy* and *jealousy* (see Parrott & Smith, 1993). The latter refers to situations in which people are afraid of losing something they already possess (mostly a relationship) and is distinct from envy.

The potential benign envy items focused on liking of the envied other (e.g., „I have warm feelings toward top performers"), increased effort caused by envy (e.g., „I strive to reach other people's superior achievements"), and increased goal setting after upward comparisons (e.g., „If someone has superior qualities, achievements, or possessions, I try to attain them for myself"). The malicious envy items focused on hostile behavior (e.g., „If other people have something that I want for myself, I wish to take it away from them."), resentful feelings toward the envied person (e.g., „Seeing other people's achievements makes me resent them"), and general feelings of anger in relation to upward comparisons (e.g., „I hate to encounter people I envy"). Participants indicated their agreement on a scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

We also added the DES (Smith et al., 1999) as the most popular trait envy measure to investigate our prediction that this scale primarily measures dispositional malicious and not

[1]For this and all of the subsequent studies, we report all data exclusions, all manipulations, and all measures. The sample size of each study was set in advance. In Studies 2.1, 2.2, and 2.3, we restricted our analyses a priori to native speakers who were in the United States during testing, indicated that they were not fairly or very distracted during the study, indicated that they comprehended the tasks and instructions, and that we can include their data into our analyses (Meade & Craig, 2012). This led to the exclusion of 22 participants in Study 2.1, 7 participants in Study 2.2, and 10 participants in Study 2.3. In Study 2.4, we did not collect these data to keep the questionnaire as short as possible. For more information on the diversity of the demographic variables and the overall good quality of personality psychology research conducted with MTurk samples, see Buhrmester, Kwang, and Gosling (2011).

benign envy.

2.5.2 Results and discussion.

Exploratory factor analyses with oblimin rotation clearly revealed two factors in the scree plot. Items measuring likability of the envied person typically loaded highly on both factors and were therefore excluded. Based on our results, we chose six items for each subscale. These items had good psychometric properties, loaded highly on their intended factor and not on the other, fitted our understanding of benign and malicious envy, and several contained the word *envy*.

The Dispositional Benign Envy subscale ($\alpha = .85$) and the Dispositional Malicious Envy subscale ($\alpha = .89$) were both internally consistent. The scales were not correlated, $r(365) = .01, p = .89$. The DES showed no significant relation with the Dispositional Benign Envy subscale, $r(365) = .04, p = .46$, but was significantly correlated with the Dispositional Malicious Envy subscale, $r(365) = .65, p < .001$.

After this initial study, feedback from colleagues and further results led us to refine the scale in some details. An English native speaker pointed out that the formulation of one item used a somewhat uncommon word, which we then exchanged with a more frequent synonym. In addition, in later studies with the BeMaS, one benign envy item repeatedly loaded highly on both the Dispositional Benign and Malicious Envy subscales. We therefore decided to delete this item from the scale. To even out the number of items, we also excluded another malicious item whose content was covered by others. This led to the final version of the BeMaS (see Table 2.1). We tested the internal structure of the BeMaS with an independent sample ($N = 933$). A structural equation model with two correlated factors—dispositional benign and malicious envy—showed good fit to the data, $\chi^2(34) = 189.89, p < .001$, goodness of fit index $(GFI) = .96$, comparative fit index $(CFI) = .97$, adjusted goodness of fit index $(AGFI) = .93$, and root mean square error of approximation $(RMSEA) = .07$, 95% confidence interval (CI) $= [.06; .08]$ (for details and further results, see the Appendix A).[2] We then also translated the English scale into German.[3]

[2] We also tested the temporal stability of the Benign and Malicious Envy Scale (BeMaS) over a 3- to 4-week interval. These analyses confirmed the temporal stability of the BeMaS. Details can be found in Appendix A.

[3] In the Dispositional Benign Envy subscale, the term *envy* was translated into the German word for benign envy, *beneiden*. In the Dispositional Malicious Envy subscale, the term *envy* was translated into the German word that captures both envy forms, *Neid*.

Table 2.1. The Benign and Malicious Envy Scale (BeMaS) and Factor Loadings of Each Item.

	Item	Benign Envy	Malicious Envy
(1)	When I envy others, I focus on how I can become equally successful in the future.	**.84**	-.09
(3)	If I notice that another person is better than me, I try to improve myself.	**.84**	-.11
(4)	Envying others motivates me to accomplish my goals.	**.76**	.11
(7)	I strive to reach other people's superior achievements.	**.84**	.02
(9)	If someone has superior qualities, achievements, or possessions, I try to attain them for myself.	**.81**	.09
(2)	I wish that superior people lose their advantage.	.03	**.72**
(5)	If other people have something that I want for myself, I wish to take it away from them.	.05	**.81**
(6)	I feel ill will toward people I envy.	-.04	**.89**
(8)	Envious feelings cause me to dislike the other person.	-.03	**.84**
(10)	Seeing other people's achievements makes me resent them.	-.01	**.88**

Note. Factor loadings were taken from a factor analysis with oblimin rotation with the collapsed samples from Study 2.2, Study 2.3, and Appendix A ($N = 933$). Numbers in parentheses refer to the item's position in the full scale. Factor loadings $> .30$ are written in bold.

2.6 Study 2.2

The goal of Study 2.2 was to establish convergent and discriminant validity of the BeMaS. More precisely, we wanted to test whether it can predict the diverse motivational consequences of envy. On the one hand, benign envy spurs upward-directed behavior aimed at leveling oneself up. On the other hand, malicious envy spurs socially harmful behavior aimed at leveling the other person down. In Study 2.2, we confronted participants with an upward social comparison standard. If the BeMaS (assessed in a previous session) measures stable differences in envious responding, it should predict the specific emotional reactions toward this comparison standard. More specifically, we hypothesized that dispositional benign envy would predict

benign envy at the state level and that dispositional malicious envy would predict malicious envy at the state level. However, dispositional benign envy should neither correlate with state malicious envy nor should dispositional malicious envy correlate with state benign envy. This would constitute evidence for the full pattern of a double dissociation (Teuber, 1955).

Also of interest were correlations of dispositional benign and malicious envy with perceived deservingness and the intensity of participants' negative affect. Being an important appraisal dimension distinguishing the two forms of envy, we expected dispositional benign envy to correlate positively, but dispositional malicious envy to correlate negatively with deservingness. Furthermore, we expected both dispositional benign and malicious envy to predict the intensity of negative affect experienced in the situation. The latter prediction is important because it establishes that the BeMaS does not capture admiration instead of benign envy. Benign envy entails a certain amount of admiration for the more advantaged other. However, the two emotions are also associated with distinct thoughts, action tendencies, motivational goals, and appraisal patterns. Most importantly, whereas benign envy is a negative emotion, admiration is a positive emotion (Crusius & Lange, 2014; Van de Ven et al., 2009; Van de Ven et al., 2011a, 2011c). Just as dispositional malicious envy, dispositional benign envy should thus predict negative affect.

2.6.1 Method.

Participants. We recruited 194 participants from MTurk and instructed them to complete the BeMaS and several other measures unrelated to the current study. We contacted the same participants 3 to 4 weeks later offering them the participation in another study. Of the original sample, 167 participants followed this invitation resulting in a response rate of 85%. Mean age was 31.83 years ($SD = 10.47$). One hundred and ten were male.

MTurk workers typically participate in several different studies each day. Furthermore, we did not mention that we contacted them because of their previous participation in a study including the BeMaS. Finally, we administered the BeMaS along with other measures in the first wave of data collection. Therefore, this study constitutes a strong test of the construct validity of the BeMaS.

Materials and procedure. All participants were workers on the crowdsourcing platform MTurk. On MTurk, workers can earn money by completing diverse tasks such as categorizing photographs, describing products, or completing surveys. Although the average pay on MTurk can be assumed to be quite low, many workers rely on MTurk as one important source of their income, and the success in doing so is a frequent topic of discussion on Internet forums that specialize on MTurk. That is why we chose success on MTurk as a comparison dimension to elicit envy.

To do so, we confronted MTurk workers with an alleged interview of another MTurk

worker with the gender-neutral name, Alex, supposedly taken from an MTurk Internet forum. To create a highly realistic appearance, we modified the HTML source code of a popular MTurk forum and embedded a screenshot of it in our survey. According to the interview, Alex is highly successful, earning at least $10 per hour, recently even $12 with a record of $17. Alex explained that his or her success might be due to the fact that he or she is working very hard and diligently, resulting in a spotless approval record for his or her work on MTurk (nevertheless, the interview contained several spelling mistakes). In addition, he or she explained that part of his or her success is being a so-called Master Worker. This status allows MTurk workers to access tasks that are often better paid than other tasks. It is awarded by Amazon to workers who prove to be reliable. However, the criteria for assessing this are not transparent. In the interview, Alex acknowledges this fact by stating that he or she became Master Worker for unknown reasons, it could well be random. From previous studies, we knew that this description is highly believable and an upward standard for almost all MTurk workers (Faulmüller & Crusius, 2014; Lange, Crusius, & Hagemeyer, 2015). Because the factors that contributed to Alex' success were only partly controllable and deserved, Alex was ambiguous with regard to the possibility to elicit state benign and malicious envy.

After reading the interview, participants responded to four items adapted from Crusius and Lange (2014) and Van de Ven et al. (2009) measuring benign envy ($\alpha = .88$; e.g., „Alex's success inspires me to put more effort in earning a higher wage on MTurk"), four items related to malicious envy ($\alpha = .86$; e.g., „I wish that Alex would fail at something"), three items related to perceptions of deservingness ($\alpha = .89$; e.g., „Alex does not deserve to be so successful"[reverse coded]), and three items related to intensity of negative affect ($\alpha = .90$; e.g., „It frustrates me that I don't earn as much as Alex") on a scale from 1 (*does not apply at all*) to 7 (*applies very much*).

2.6.2 Results and discussion.

As predicted, dispositional benign envy was related to benignly envious responses toward Alex, $r(167) = .30, p < .001$, but not to maliciously envious responses, $r(167) < .01, p = .99$. Dispositional malicious envy was related to maliciously envious responses toward Alex, $r(167) = .44, p < .001$, but not to benignly envious responses, $r(167) = .02, p = .84$. As predicted, this constitutes the full pattern of a double dissociation in which dispositional benign and malicious envy are connected distinctively to upward-directed or harmful behavior following an unflattering upward comparison.

In addition, dispositional benign envy was unrelated to deservingness, $r(167) = -.12, p = .13$, whereas dispositional malicious envy showed a negative correlation, $r(167) = -.40, p < .001$. We are uncertain of why there was no positive relationship of dispositional benign envy with deservingness as we had predicted based on findings at the state level (e.g., Van de Ven

et al., 2011a). Yet, recent evidence suggests that the effects of benign envy are more strongly driven by perceptions of personal control than deservingness appraisals, whereas for malicious envy, the reverse applies (Lange, Crusius, & Hagemeyer, 2015).

However, dispositional benign envy, $r(167) = .15, p = .06$, and dispositional malicious envy, $r(167) = .27, p < .001$, were both related to intensity of negative affect. Despite being marginally significant, the correlation of dispositional benign envy and frustration was not significantly different from the correlation of dispositional malicious envy with frustration, $z = -1.34, p = .18$. This result underlines that both dispositions increase the pain felt after upward comparisons and that dispositional benign envy is distinct from admiration.

2.7 Study 2.3

In Study 2.2, we collected first evidence for the distinct motivational dynamics of envy that can be unraveled by the BeMaS. State benign and malicious envy as measured in Study 2.2 implied concrete motivational tendencies, for instance the inspiration to invest more effort or the wish that the envied person would fail. In Study 3, we wanted to go one step further by linking dispositional benign and malicious envy to broad underlying motivational tendencies: hope for success and fear of failure.

We reasoned that dispositional benign envy is fueled by a general motivation to reach a standard of excellence and thereby achieve success. Therefore, hope for success should be related to dispositional benign envy. In contrast, we reasoned that dispositional malicious envy is fueled by a general motivation to avoid falling short of a standard of excellence. Therefore, fear of failure should be related to dispositional malicious envy.

The core underlying process of this conceptualization is a social comparison. Thus, although dispositional benign envy should be related to hope for success and dispositional malicious envy to fear of failure, both should be positively correlated with a general tendency to compare, establishing convergent validity. These predictions were of focal interest in Study 2.3.

2.7.1 Method.

Participants. We recruited 192 participants on MTurk with a mean age of 31.6 years ($SD = 9.95$). One hundred twenty-one were male.

Materials and procedure. Among other scales unrelated to the current study, participants completed the BeMaS to measure dispositional benign ($\alpha = .84$) and malicious envy ($\alpha = .90$), as well as scales to measure hope for success, fear of failure, and general comparison propensity.

We included the revised version of the Achievement Motives Scale (AMS-R; Lang & Fries,

2006) to measure hope for success ($\alpha = .83$; e.g., „I am attracted by tasks, in which I can test my abilities“) and fear of failure ($\alpha = .86$; e.g., „I feel uneasy to do something if I am not sure of succeeding“). Answers were given on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

As a measure of the dispositional tendency to compare, we used the Iowa-Netherlands Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999; $\alpha = .87$; e.g., „I always pay a lot of attention to how I do things compared with how others do things“). Participants responded on a scale from 1 (*I disagree strongly*) to 5 (*I agree strongly*). Although the scale is typically used with a composite score, the authors suggested that some items measure comparison propensity related to abilities and other items measure comparison propensity related to personal opinions. We predicted that the correlation of dispositional benign and malicious envy with comparison propensity should be stronger for the ability subscale as opinions are usually not a domain that elicits envy (DelPriore, Hill, & Buss, 2012).

2.7.2 Results and discussion.

Descriptive statistics and zero-order correlations of the scales can be found in Table 2.2. As predicted, dispositional benign envy was positively related to hope for success but unrelated to fear of failure. In contrast, dispositional malicious envy was positively related to fear of failure and even negatively related to hope for success. Both forms of dispositional envy, however, were positively correlated with comparison propensity, especially with the comparison propensity regarding abilities.

To verify our predictions and to control for the correlation of hope for success and fear of failure, we also ran two regression analyses. Specifically, we regressed dispositional benign envy simultaneously on hope for success and fear of failure. Confirming the hypothesized pattern, hope for success predicted dispositional benign envy, $B = 0.71, SE = 0.13, p < .001$, whereas for fear of failure, the association was marginal, $B = 0.15, SE = 0.09, p = .08$. Repeating the same analysis with dispositional malicious envy as criterion revealed a significant positive relationship for fear of failure, $B = 0.33, SE = 0.11, p = .002$, but also a significant negative relationship for hope for success, $B = -0.48, SE = 0.16, p = .002$.

In summary, a motivation to reach a standard of excellence is linked to dispositional benign envy, whereas a motivation to avoid falling short of such a standard is linked to dispositional malicious envy. In addition, dispositional malicious envy was negatively correlated with hope for success. Thus, not only do maliciously envious people fear to not live up to a standard of excellence, they even actively refrain from pursuing it.

Table 2.2. Descriptive Statistics and Zero-Order Correlations of the Scales Used in Study 2.3.

	$M(SD)$	1	2	3	4	5	6	7
1 Benign envy[a]	4.12 (0.92)	—						
2 Malicious envy[a]	2.54 (1.13)	-.07	—					
3 Hope for success[b]	3.12 (0.50)	.37*	-.26*	—				
4 Fear of failure[b]	2.75 (0.73)	.05	.26*	-.19*	—			
5 INCOM[c]	3.39 (0.68)	.26*	.21*	.10	.39*	—		
6 INCOM ability[c]	3.09 (0.88)	.27*	.26*	.00	.41*	.92*	—	
7 INCOM opinion[c]	3.76 (0.66)	.16*	.07	.23*	.23*	.79*	.49*	—

Note. $N = 192$.

[a] Participants responded on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*).

[b] Participants responded on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

[c] Iowa-Netherlands Comparison Orientation Measure.Participants responded on a scale from 1 (*I disagree strongly*) to 5 (*I agree strongly*).

$^{*}p < .05$

2.8 Study 2.4

The goal of Study 2.4 was to extend the findings regarding the motivational dynamics of envy by investigating the behavioral effects of dispositional benign envy in a field setting. The current perspective and evidence strongly suggest that past research on dispositional envy was exclusively focused on malicious envy. Being the form of envy with a longer research history, malicious envy has been linked to many important real-world outcomes such as social undermining in working groups (Duffy et al., 2012) or deception in negotiations (Moran & Schweitzer, 2008). There is less evidence for behavioral effects of state benign envy, and it remains to be investigated how dispositional benign envy is related to real-world behavior and outcomes.

One highly self-relevant domain, in which the success of others is often interpreted as justified and personal control over one's accomplishments appraised as high, is athletic achievement. In sports, superior comparison standards typically invest much effort into training to reach their goals. Therefore, benign envy should occur frequently among competitive individuals and may have beneficial effects with regard to their performance.

Study 3 has shown that dispositional benign envy is associated with a general motivational tendency to optimistically pursue standards of excellence. We wondered whether this corresponds to the actual performance of long-distance runners in an important race. Usually, runners practice multiple times per week and are likely exposed to several upward compari-

son standards during training as well as during their races. These upward comparisons could elicit envy. The connection of dispositional benign envy to hope for success should lead to an adoption of this high standard of excellence. To put it differently, dispositional benign envy should increase goal setting during training. Given that goal setting predicts performance, this goal, in turn, should spur the motivation to excel during training and, ultimately, the race.

Dispositional malicious envy, on the other hand, should be unrelated to performance in long-distance running. Study 2.3 has shown that malicious envy is linked to a fear of not living up to a certain standard and decreases motivation to reach such a goal. Therefore, being exposed to upward comparison standards during training should not lead to the adoption of a higher goal and therefore not to increased performance during the race.

To investigate these hypotheses, in Study 2.4, we measured participants' dispositional benign and malicious envy shortly before they took part in a marathon or a half marathon. They also indicated the goal they had set themselves for their race. We hypothesized that dispositional benign envy would predict race performance mediated via higher goal setting. Dispositional malicious envy should not show this pattern.

2.8.1 Method.

Participants. In total, 474 individuals participated in this study. We excluded the data of 36 individuals who, instead of running the regular half or full marathon, participated in smaller, non-comparable races taking place at the same time (e.g., the team relay marathon). In addition, the questionnaires of 23 individuals could not be matched to their race results because they did not provide a race number or because their race number was illegible. Furthermore, 21 individuals had no race results because they either did not start in the race, were disqualified, or started but did not finish the race. Finally, 23 individuals did not indicate a specific time goal (they left the field blank or stated that they just wanted to finish the race). One participant indicated an extreme time goal for the marathon (it was much faster than the world record), which was most likely an error. The remaining sample[4] consisted of 370 participants, 208 of them ran the half marathon and 162 the full marathon. They were 17 to 78 years old ($M = 39.60$, $SD = 10.67$), and 252 were male.

Materials and procedure. We approached the runners on the 2 days before the race when they picked up their race number at the Cologne Marathon exhibition. We invited them to take part in a study on the effects of social comparisons on sports performance in exchange for the chance to win a gift voucher in a lottery. In the questionnaire, they were asked to indicate their race number, to complete the benign ($\alpha = .79$) and malicious envy ($\alpha = .83$) items,[5] and to

[4] A binary logistic regression showed that neither dispositional benign envy, $B = .0.08$, standard error (SE) = 0.12, $\chi^2(1) = 0.41$, $p = .52$, odds ratio (OR) = 0.93, nor dispositional malicious envy, $B = .03$, $SE = 0.15$, $\chi^2(1) = 0.04$, $p = .84$, $OR = 1.03$, predicted the likelihood of data exclusion.

[5] This study was conducted with our first translation of the BeMaS into German. Unfortunately, we later learned

indicate the time goal they had set themselves for their race. After the race, we downloaded the runners' race results and their demographic data, which were publicly available from the website of the Cologne Marathon, using the individual race numbers as identifiers.

2.8.2 Results and discussion.

We present descriptive statistics and zero-order correlations in Table 2.3. We used the average running speed in kilometers per hour as dependent variable. Runners' time goal was also transformed into a speed goal. As predicted, dispositional benign envy was positively related to higher goal setting and performance during the race. In contrast, dispositional malicious envy was unrelated to these variables.

Table 2.3. Descriptive Statistics and Zero-Order Correlations of the Variables in Study 2.4.

	$M(SD)$	1	2	3	4	5	6	7
1 Benign envy[a]	3.41 (1.03)	—						
2 Malicious envy[a]	1.58 (0.77)	.32*	—					
3 Age	39.60 (10.67)	-.23*	-.18*	—				
4 Gender[b]	0.32 (0.47)	.10^{+}	.03	-.23*	—			
5 Race type[c]	0.44 (0.50)	-.02	-.05	.11*	-.24*	—		
6 Race goal[d]	10.77 (1.50)	.12*	-.03	.05	-.31*	.05	—	
7 Race speed[d]	10.67 (1.48)	.11*	-.01	.02	-.32*	.02	.86*	—

Note. $N = 370$. Spearman correlations.

[a] Participants responded on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*).

[b] 0 = male, 1 = female.

[c] 0 = half marathon, 1 = full marathon.

[d] Kilometers per hour.

$^{+}p < .10$, $^{*}p < .05$

We then tested the hypothesis that the goal runners had set for themselves before the race mediated the relationship between dispositional benign envy and race performance. We present the results of the mediation analysis controlling for age, gender, type of race, and dispositional malicious envy in Figure 2.1. The indirect effect in a bootstrap mediation analysis with 5,000 bootstrap re-samples and bias-corrected CI (Preacher & Hayes, 2008) was signif-

that one dispositional malicious envy item did not load highly on the respective scale. This item was later slightly rephrased, which corrected this problem. However, our predictions were mostly centered on dispositional benign envy.

icant, $ab = .15$, 95% CI $= [.03; .28]$, Sobel $Z = 2.56$, $p = .01$. Repeating the same analysis with dispositional malicious envy as predictor yielded no significant indirect effect, $ab = -.09$, 95% CI $= [-.27; .09]$, Sobel $Z = -1.14$, $p = .26$.[6]

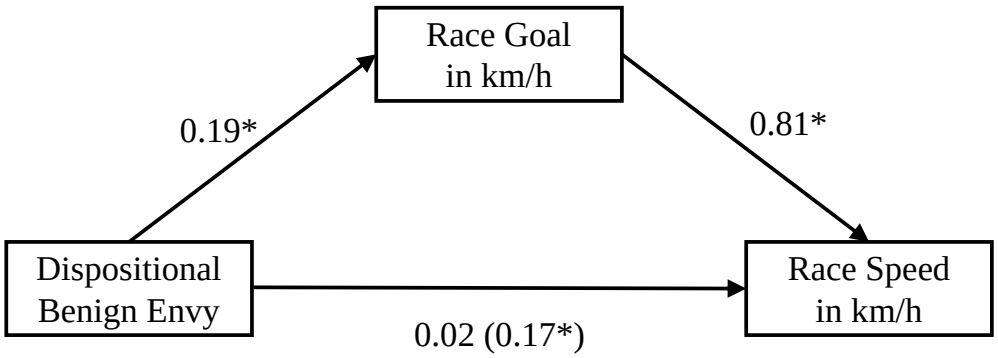

Figure 2.1. Mediation effect of dispositional benign envy on race speed via race goal controlling for age, gender, race type, and dispositional malicious envy. $^{*}p < .05$

Although not anticipated, we noted during data collection that not every runner had set a specific time goal for the race. This enabled us to test another hypothesis in Study 2.4. According to our reasoning, dispositional malicious envy is fueled by a fear of not living up to a standard of excellence and also less motivation to reach this goal. In other words, dispositional malicious envy should lead to an active avoidance of a specific goal. This would be in line with the dynamics of enviers' underlying motives. In the current study, a number of participants did not indicate a concrete race goal although we explicitly asked for it. We tested whether dispositional benign and malicious envy predicted the tendency to indicate no goal. To this end, we ran a logistic regression in which we regressed goal (0 = goal indicated, 1 = no goal indicated) on dispositional benign and malicious envy, controlling for age, sex, and type of race. In line with our reasoning, dispositional benign envy marginally predicted the adoption of a concrete race goal, $B = .0.42$, $SE = 0.23, \chi^2(1) = 3.34$, $p = .07$, odds ratio $(OR) = 0.66$, 95% CI $= [0.42; 1.03]$. However, also as hypothesized, dispositional

[6]We also tested a full model with structural equation modeling such that dispositional benign and malicious envy served as parallel predictors. The results are the same but the model is less parsimonious. Details can be found in Appendix A.

malicious envy significantly predicted the avoidance of a concrete race goal, $B = 0.49$, $SE = 0.18, \chi^2(1) = 7.30$, $p = .01$, $OR = 1.64$, 95% CI $= [1.14; 2.34]$.

In summary, our hypotheses were supported. Higher goal setting mediated the association of dispositional benign envy on race performance. This constitutes the first evidence for behavioral correlates of dispositional benign envy with a real-world behavioral outcome. In addition, we also found that dispositional malicious envy predicted the active avoidance of a concrete race goal. Together, these findings strongly support the contention that dispositional benign and malicious envy are connected to distinct motivational dynamics.

2.9 General Discussion

Previous research has treated dispositional envy as a unitary construct. In contrast, recent research on state envy has shown that people may react to threatening upward comparisons with two qualitatively distinct forms of envy: benign envy, which involves the motivational tendency to improve oneself, and malicious envy, which is aimed at pulling the superior other down. We predicted that people also differ in their propensity to experience benign and malicious envy. To capture the two envy forms on the trait level, we developed the BeMaS, which uniquely predicts benign and malicious reactions in comparison situations. We further reasoned that dispositional benign envy is fueled by an optimistic achievement motive and is associated with the adoption of a standard of excellence provided by the envied person and, ultimately, increased performance. In contrast, dispositional malicious envy should be fueled by a pessimistic fear of not living up to the standard of excellence provided by the envied person and the active disengagement of such a goal.

The data confirm our predictions. They reveal that dispositional benign and malicious envy can be measured as distinct forms of envious responding (Study 2.1). Furthermore, the data show that the DES (Smith et al., 1999)—the most widely used scale to measure dispositional envy so far—exclusively taps into dispositional malicious envy. In addition, the BeMaS predicts benignly and maliciously envious responses toward an upward social comparison standard that people are confronted with (Study 2.2). In line with these behavioral inclinations, dispositional benign envy is linked to hope for success, whereas dispositional malicious envy is linked to fear of failure and decreased hope for success (Study 2.3). Moreover, these motivational dynamics translate into performance patterns of long-distance runners mediated via increased goal setting for dispositional benign envy. The propensity to experience malicious envy can even be associated with the active disengagement of concrete goals (Study 2.4).

The current data highlight that the BeMaS allows to uncover previously unknown motivational dynamics of envy. In Study 2.4, dispositional malicious envy predicted the active disengagement of a concrete race goal of long-distance runners. This fits the results of Study 2.3, which showed that dispositional malicious envy is linked to a fear of not living up to a

certain standard of excellence and decreased hope to reach it. It follows that dispositional malicious envy may also be an important predictor of motivational behavior in other settings and be related to other specific forms of coping strategies that fit this motivational dynamic. For instance, people prone to malicious envy may often actively deny the goal to get good grades in an educational situation, or disidentify with the goal to pursue a better position in the company. They may also be more likely to switch to other comparison domains to bolster their self-esteem, or they may engage in self-handicapping. This reflects a pattern of a self-protection strategy (rather than a self-enhancement strategy) in responding to self-esteem threat evoked by upward social comparisons (cf. Hepper, Gramzow, & Sedikides, 2010).

Furthermore, translated versions of the BeMaS may be an interesting means to test cultural differences of dispositional benign and malicious envy and how they relate to other psychological constructs. There is not yet much research on cultural variations in envious responding (but see Foster, 1972) and we are not aware of such research under the umbrella of benign and malicious envy. In Eastern cultures, people tend to construe the self as interdependent (Markus & Kitayama, 1991). Given that such a self-construal leads under some circumstances to stronger assimilation effects (Kühnen & Hannover, 2000), we would predict more benign envy. Nevertheless, Eastern cultures often instill stable social hierarchies and demand to respect these fixed status differences (Hofstede, Hofstede, & Minkov, 2010). This could decrease felt personal control over one's outcomes, which would then increase malicious envy (Van de Ven et al., 2011a). Such hypotheses could easily be tested with the BeMaS.

The studies presented above are strongly focused on the motivational dynamics of dispositional envy. We see this as a central dimension of envious responding. Nevertheless, we are optimistic that the BeMaS can also help to predict distinct relationships of the different envy forms with other important personality characteristics and important psychological outcomes. For instance, it has been shown that dispositional envy is related to all three elements of the Dark Triad (Veselka et al., 2014). As Veselka et al.'s scale presumably taps into dispositional malicious envy, it remains to be investigated how dispositional benign envy is related to Machiavellianism, narcissism, and psychopathy. We predict benign envy to be positively related to Machiavellianism and narcissism but not to psychopathy (Lange, Hagemeyer, & Crusius, 2015). Benign envy results from an appraisal of control over personal outcomes (Van de Ven et al., 2011a) which might, in excess, lead to a grandiose view on the self and therefore to narcissism (Lange, Crusius, & Hagemeyer, 2015). Furthermore, benign envy is characterized by strong frustration and negative affect (e.g., Crusius & Lange, 2014). Its central goal is to overcome this frustration by leveling up. Possibly, in the extreme, the benignly envious are inclined to use every means to attain this superior level of achievement, even if they have to resort to trickery and manipulation characterizing Machiavellianism. In summary, confidence in the self and a willingness to stop at nothing to level up in concert with hope for success should protect the benignly envious individual from negative affect in the long run and thus,

from psychopathy. In contrast, we would predict dispositional malicious envy to be related to Machiavellianism and psychopathy as measured within the Dark Triad. Malicious envy entails hostile behaviors directed at the envied person (e.g., Duffy et al., 2012; Moran & Schweitzer, 2008), which could underlie a manipulative mind. These hostile behaviors in concert with resentful thoughts might eventually lead into subclinical psychopathic thoughts (see, for instance, Gold, 1996).

2.10 Conclusion

For a long time, there has been agreement about the hostile nature of envy. Recent findings, however, cast doubt on this one-dimensional picture of envious responding. Next to the socially destructive behaviors that characterize malicious envy, the benign form of envy can also lead to upward-directed behavior. In the present article, we conceptualized and measured envy as a two-dimensional personality trait. This enabled us to link dispositional malicious and benign envy to distinct pessimistic and optimistic motivational tendencies and, ultimately, to behavior. We are confident that taking the dual nature of envy into account will uncover the wide variety of motivational dynamics and behavioral consequences of the most joyless of all sins.

3. Chapter 3 — The Tango of Two Deadly Sins

Abstract

Envy stems from a social comparison with a superior standard. Its 2 distinct forms are directed at changing this situation in different ways, either by becoming as successful as the envied person (in benign envy) or by lowering the envied person's advantage (in malicious envy). In essence, envy is thus a social phenomenon. Nevertheless, most previous research has focused on its underlying intrapersonal processes, overlooking envy's interpersonal core. In contrast, we show in 6 studies ($N = 1,513$) that envy and pride are intertwined in a social-functional relationship. Envy and pride often co-occur (Study 3.1) and pride displays enhance envious feelings (Studies 3.2 and 3.3). Specifically, authentic (success attributed to effort) and hubristic pride (success attributed to talent) modulate envious intentions and behavior toward their benign and malicious form (Study 3.2 to 3.6). This effect is mediated via liking, perceived prestige, and perceived dominance (Study 3.4). In accordance with a social-functional approach, the effects emerge only when authentic and hubristic pride are expressed by the superior person and not when the respective information about the superior person's feelings is simply available in the environment (Study 3.5). These effects are present when participants recall envy situations (Study 3.1), when they imagine being in a competitive situation (Studies 3.3, 3.4, and 3.5), or when envy is elicited in situ (Studies 3.2 and 3.6). Our findings show the value of studying envy as a social phenomenon and open up numerous avenues for research on envy at the interpersonal and intergroup level.

„[James Hunt] was among the very few I liked *and even fewer that I* respected. *He remains the only person I* envied.“

—Formula One driver Niki Lauda about his competitor James Hunt in the dramatization of their rivalry in the movie Rush (Fellner et al., 2013)

For better or worse, competition can unleash enormous motivational forces. When Niki Lauda competed against James Hunt as a top contender for the 1976 Formula One world championship, a fierce and long-lasting rivalry had reached its apex. In the middle of the season, a near-fatal racing accident inflicted severe burns and damaged lungs upon Lauda, barely allowing him to breathe. Nevertheless, merely 6 weeks later and still suffering from pain and injury, he returned to the contest to preserve a small remaining chance of winning the drivers' championship. When does being outperformed propel people to attain and surpass the superior achievements of others? When does it lead to hostile behavior aimed at harming the outcome of others? In the present work, we investigate how the interaction of winners' and losers' social emotions shapes motivation and behavior in competitive situations.

Whether people compete for athletic achievements, the best grade in an exam, or for their

dream job, they are readily informed about their competitors' successes based on the emotions these people have. The central emotion people express after success in competitions is pride (Tracy & Matsumoto, 2008). They may show unrestrained joy over the precious gold medal, boast with an excellent grade, or announce a new job on Facebook. Pride has been damned by many and even been called the queen of all Catholic deadly sins (Baasten, 1986). Yet, psychological research (Tracy & Robins, 2007a) supports a more multifaceted view on pride, also finding virtue in this emotion. As sinful as showing off might be, if pride follows from merit, it is an expression of deserved status. Thus, pride can draw attention to a superior person, either as a telltale sign of an exaggerated ego or as an admirable expression of accomplished achievement. As such, a pride display should be a powerful signal to the outperformed.

The strongest and most prevalent emotional consequence of perceiving superior competitors is envy (Smith & Kim, 2007). It, too, is often regarded to be a vicious emotion, the deadly and most joyless of all sins (Aquaro, 2004). In parallel to pride, research also attests a more multifaceted nature to envy. On the one hand, envy is a powerful motivator that may cause socially harmful behavior. On the other hand, it may also increase the desire to move upward (Van de Ven, Zeelenberg, & Pieters, 2009). Nevertheless, in stark contrast to its societal recognition and its strong motivational impact, many questions about envy still await empirical scrutiny (Smith & Kim, 2007). Particularly, despite envy's quintessentially social nature, the active role of the envied person in the elicitation of envy has not been investigated yet.

Here, we propose that envy and pride are intertwined in a social-functional relationship. We predict envy to be a pivotal response to a superior individual's pride display. We show how pride and envy shape distinct pathways in responding to victory and defeat—the tango of two deadly sins.

3.1 Benign and Malicious Envy

Envy is a negative emotional response to a situation in which someone lacks another's superior quality, achievement, or possession and either desires it or wishes the other lacks it (Parrott & Smith, 1993; Smith & Kim, 2007). Recent research has revealed that envy is not a unitary reaction to such upward social comparisons (Belk, 2011; Chapter 2; Crusius & Lange, 2014; Van de Ven et al., 2009; Van de Ven, Zeelenberg, & Pieters, 2011a, 2011b) but manifests in two distinct forms: *benign* and *malicious* envy. Next to its malicious manifestation, a form of envy exists that spurs the desire to attain the other's advantage (Crusius & Mussweiler, 2012) but does not entail hostility. This dual character of envy is mirrored in the fact that the lexicon of many languages contains two words for envy mapping onto this distinction. For instance, the German words *beneiden* and *missgönnen* both translate into the English (*to*) *envy*. Similar distinctions exist in Dutch (*benijden* and *afgunst*), Arabic (*ghibtah* and *hasad*), or Russian (*white* and *black envy*). Yet, even in languages having only one word for envy, such

as English or Spanish, people also recall two different clusters of emotional experiences that correspond to benign and malicious envy (Van de Ven et al., 2009).

How are these forms of envy different from each other? Both are equally negative and frustrating (e.g., Chapter 2; Crusius & Lange, 2014) but involve distinct patterns of cognition and behavior. Benign envy entails more positive thoughts about the envied person (Van de Ven et al., 2009), is associated with increased effort (Chapter 2; Van de Ven et al., 2011a), a desire to get the other's advantage (Crusius & Mussweiler, 2012; Van de Ven, Zeelenberg, & Pieters, 2011b), and an attentional shift toward means to attain the upward goal (Crusius & Lange, 2014). Malicious envy, in contrast, entails negative thoughts about the envied person (Van de Ven et al., 2009), Schadenfreude at the other's suffering (Van de Ven et al., 2015; see also Smith et al., 1996; Van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006), and an attentional shift toward the envied person relative to the envy object (Crusius & Lange, 2014; see also Hill, DelPriore, & Vaughan, 2011). Presumably, it is also the driver of other socially destructive consequences attributed to envy such as hostile and resentful thoughts toward the envied person (Salovey & Rodin, 1984; Smith, Parrott, Ozer, & Moniz, 1994), social undermining in groups (Duffy, Scott, Shaw, Tepper, & Aquino, 2012), and cheating (Moran & Schweitzer, 2008).

The distinct consequences of benign and malicious envy are in line with an evolutionary perspective according to which envy is an adaptive emotional response to an environmental challenge (Hill & Buss, 2008; Hill et al., 2011). Envy not only alerts an envier to another's advantage, it also motivates to level the difference between the self and the superior standard (Van de Ven et al., 2009). To do so, the envier can either try to increase personal effort in order to level up and become as successful as the envied person or the envier can damage the other's success and thereby level the envied person down.[7]

When is envy elicited and when will it develop into its benign or malicious form? It has been shown that the envier must perceive the envied person as similar to the self (Schaubroeck & Lam, 2004). In addition, envy typically occurs in domains of high personal relevance (DelPriore, Hill, & Buss, 2012; Salovey & Rodin, 1984). These prerequisites are also found in research on the amplification of social comparisons in general (e.g., Corcoran, Crusius, & Mussweiler, 2011). They determine whether specific individuals may become focal compari-

[7] As benign and malicious envy are neither linked to distinct words across all languages nor specific facial expressions, separate physiological changes, or differences in associated affect, their respective motivational tendencies are a key distinction between the two forms. Therefore, measures of benign and malicious envy often refer to motivational proclivities associated with their specific environmental challenge (e.g., Baumel & Berant, 2015; Chapter 2; Crusius & Lange, 2014; Van de Ven et al., 2009, 2011a). These motivational proclivities are also what distinguishes benign envy from its neighboring emotion of admiration, which is unrelated to increased improvement behavior. Furthermore, the latter does not necessarily entail a comparison to the other person. In addition, even though people who are benignly envious admire the superior other to some extent, pure admiration is a positive emotion (Crusius & Lange, 2014; Immordino-Yang, McColl, Damasio, & Damasio, 2009; Van de Ven et al., 2009).

son standards for the envier. Such a situation develops into benign envy if the envier appraises the other's advantage as deserved and evaluates control over personal outcomes as high. It develops into malicious envy if the envier appraises the other's advantage as undeserved and evaluates control over personal outcomes as low (Van de Ven, Zeelenberg, & Pieters, 2012). These appraisal patterns fit the notion that benign and malicious envy reflect different adaptive responses to upward comparisons given particular situational affordances.

Reviewing the factors that have been investigated as determinants of envy, it is apparent that they mainly focus on the envier. Perceived similarity, personal relevance, appraised deservingness, and experienced personal control are all constructs highlighting the cognitive and experiential realm of the inferior person. However, envy is—by its very definition—a social emotion. It involves (at least) a dyad of an envier and an envied person. An intrapersonal approach tacitly shifts the research focus away from envy's interpersonal essence. Here we argue that, to understand envy, it is important to take its social nature more directly into account. We think of envy as a social-functional emotion, thus, as a response to another person's action. Specifically, we hypothesize that envy is fueled by displays of pride.

3.2 The Social-Functional Relation of Envy and Pride

According to social-functional approaches (Fischer & Manstead, 2008; Fischer & Van Kleef, 2010; Keltner & Haidt, 1999; Manstead & Fischer, 2001), emotions have partly evolved to support the formation and maintenance of relationships and to establish and maintain social hierarchies. For instance, anger displays imply aggressive propensities and self-confidence (Hareli & Hess, 2010). In negotiations, such inferences make people believe that the other person has high limits, which leads them to concede more (Van Kleef, De Dreu, & Manstead, 2004, for similar findings with other emotions, see Van Kleef, De Dreu, & Manstead, 2006; Lelieveld, Van Dijk, Van Beest, & Van Kleef, 2013). As another example, expressed embarrassment signals appeasement and prosociality to others, which fosters trust and affiliative tendencies on the side of observers (Feinberg, Willer, & Keltner, 2012; Keltner, 1995). These examples show that emotions affect others by conveying important social information.

In order to infer the social function of a particular emotion, it is crucial to determine the social goal it serves (Roseman, Wiest, & Swartz, 1994). As outlined above, the social goal of envy is to level the difference between the self and the envied person. More specifically, when people experience benign envy, they try to level themselves up, whereas when they experience malicious envy they try to level the other down. If another individual has gained higher status, envy helps to reestablish a similar status for the self or to even surpass the envied person. Given envy's social goal, it follows that envy should be fueled by a superior person's emotional display of higher status.

The most likely emotional communication of status to others in a competitive environment

is through pride (Cheng, Tracy, & Henrich, 2010; Martens, Tracy, & Shariff, 2012; Oveis, Horberg, & Keltner, 2010; Shariff & Tracy, 2009; Shariff, Tracy, & Markusoff, 2012; Tracy, Shariff, Zhao, & Henrich, 2013). It occurs if a person attributes a success internally (Horberg, Kraus, & Keltner, 2013; Tracy & Robins, 2004a; Tracy, Shariff, & Cheng, 2010; Williams & DeSteno, 2008). Pride is spontaneously expressed in response to victory (Tracy & Matsumoto, 2008), and has multiple distinctive expressions (verbal and visual; Tracy & Prehn, 2012; Tracy & Robins, 2004b) recognized across cultures (Tracy & Robins, 2008; Tracy et al., 2013).

Depending on how a successful person attributes achievement, pride can develop into one of two forms. Attributing success to internal, unstable, controllable causes leads to authentic pride. Attributing success to internal, stable, uncontrollable causes leads to hubristic pride (Tracy & Robins, 2007a). For instance, after receiving an excellent grade in an exam, a student might be proud because of effort invested into studying (authentic pride) or personal abilities (hubristic pride). Yet, why should these expressions of pride affect envy on the side of the inferior person?

In accordance with a social approach to emotions (Keltner & Haidt, 1999; Van Kleef, 2009; Van Kleef, Van Doorn, Heerdink, & Koning, 2011), pride should convey specific thoughts and intentions to observers. More specifically, it reveals the superiority of the pride displaying individual and signals the relevance of an achievement, which are requirements for envy (Smith & Kim, 2007). Thus, we hypothesize that pride contributes to the elicitation of envy. In addition, we argue that there are distinct relationships between expressed authentic pride and benign envy as well as expressed hubristic pride and malicious envy.

People expressing authentic pride are perceived as prestigious and respectable individuals from whom others may receive valuable information (Cheng et al., 2010). Authentic pride also increases perceived likability (Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013). Therefore, authentic pride expressions should foster benign envy, entailing the motivation to level the difference by increasing effort. This hypothesis is in line with research showing that subjective personal control and appraised deservingness spur benign envy (Lange, Crusius, & Hagemeyer, 2015; Van de Ven et al., 2012). In contrast, people expressing hubristic pride are perceived as individuals who try to secure their status by dominating and controlling others (Cheng et al., 2010). This undermines their likability (Cheng et al., 2013). Therefore, hubristic pride expressions should foster malicious envy, entailing the envier's motivation to harm the superior position of the envied person. This hypothesis is in line with research showing that reduced personal control and decreased appraisals of deservingness spur malicious envy (Lange et al., 2015; Van de Ven et al., 2012).

On the surface, our theoretical account may seem contradictory to research on the effect of dominance displays on perceivers' submissiveness. For example, if individuals expand their posture in interactions, perceivers may show complementary reactions by constricting themselves (Tiedens & Fragale, 2003). Such submissive reactions can be accompanied by de-

pressive feelings (Price, 1998) or shame (Gilbert, 2000). Thus, displays related to pride may sometimes lead to the acceptance of a hierarchy. Nevertheless, these findings do not speak against our hypotheses. The desire for status is a fundamental human motive, yet it varies between situations (Anderson, Hildreth, & Howland, 2015). Competitive situations fulfill certain criteria that lead to the refusal of status differences (Price, 1998; Tiedens & Fragale, 2003). First, the desired object or domain of comparison is of high value to the inferior person. Second, the pursued path to level the difference is under voluntary control. Finally, the hierarchical differences are often not established before the competition starts but are determined by the result of the competition itself. Thus, even if pride displays may foster submissive reactions in noncompetitive situations, such an acceptance of the status quo is unlikely in competitive settings. The latter are the focus of our investigation.

3.3 The Current Research

In summary, we theorize that there is a social-functional relation between envy and pride. Specifically, pride's social goal of status enhancement should foster an envious response to close the resulting gap in perceived status. However, this can occur via two different routes. Authentic pride should modulate an envier's feelings toward benign envy and its motivational tendency to level up. Hubristic pride should modulate an envier's feelings toward malicious envy and its motivational tendency to harm the other's success. We investigated these predictions in six studies.

3.4 Study 3.1

Study 3.1 had two goals. First, we investigated how often envy and pride co-occur. Second, we examined the potential relationship between authentic pride and benign envy as well as hubristic pride and malicious envy. For these aims, we asked participants to recall an incident of either benign or malicious envy, to rate the envied person with regard to authentic and hubristic pride, and to indicate whether the envied person had displayed pride.

3.4.1 Method.

Participants. One hundred thirty-one[8] U.S. citizens from Amazon Mechanical Turk (mTurk) participated in Study 3.1. Based on criteria set a priori, we excluded participants who indicated we should not use their data ($n = 2$; Meade & Craig, 2012) and who did not recall an

[8]The sample sizes of all studies were planned with G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) or based on sample size recommendations for mediation analyses (Fritz & MacKinnon, 2007) for a small to medium effect size and the aim to achieve 80% power.

envy incident ($n = 7$). Thus, the final sample size was $N = 122$ with a mean age of 35.07 years ($SD = 12.55$). Fifty-one of them were male (one missing value).

Materials and procedure. Participants were randomly assigned to one of two conditions: They either recalled an incident of benign ($n = 66$) or malicious envy ($n = 56$). Specifically, participants' task was to recall an incident of envy in which they evaluated the other's advantage as deserved or undeserved. Deservingness is one of the key appraisal dimensions that differentiates between benign and malicious envy (e.g., Crusius & Lange, 2014; Van de Ven et al., 2012). Participants were further instructed to close their eyes and vividly reexperience what happened and how they felt. Then, they should write down the story in as much detail as possible as if they would tell it to a good friend (Roseman et al., 1994).

Afterward, participants answered manipulation check questions adapted from Van de Ven et al. (2009) and validated by Crusius and Lange (2014). We instructed them that we would refer to the envied person as *the person* and to the envied person's advantage as *X*. The manipulation check included seven items related to benign envy (e.g., „I felt inspired to also obtain X"; $\alpha = .64$), seven items related to malicious envy (e.g., „I would have liked to hurt the person"; $\alpha = .91$), three items related to the intensity of negative affect (e.g., „It felt frustrating that I did not have X"; $\alpha = .76$), and three items related to deservingness (e.g., „The person didn't deserve X," reverse coded; $\alpha = .86$). Participants responded by using a scale from 1 (*does not apply at all*) to 7 (*applies very much*). The items can be found in Appendix B (Table B1).

Then, we instructed participants to indicate how they thought the envied person had felt. They did so on a scale measuring authentic and hubristic pride (Tracy & Robins, 2007a). Participants indicated how strongly the other person appeared to feel accomplished, like he or she is achieving, confident, fulfilled, productive, like he or she has self-worth, and successful (authentic pride; $\alpha = .91$) as well as arrogant, conceited, egotistical, pompous, smug, snobbish, and stuck-up (hubristic pride; $\alpha = .97$). Answers were given on a scale from 1 (*not at all*) to 5 (*extremely*).

Finally, participants responded with *yes* or *no* to the question „Did you notice or hear of any occurrence of pride on the side of the person you envied in relation to his/her advantage?"

3.4.2 Results.

Manipulation check. Based on the theoretical conceptualization of benign and malicious envy, we predicted higher values for the benign envy condition than the malicious envy condition on the benign envy scale and the reversed pattern for the malicious envy scale. We expected no differences with regard to the intensity of negative affect. However, in the benign envy condition, the envied person's advantage should be rated as more deserved. We analyzed responses to the manipulation check items in a MANOVA with envy condition (benign

vs. malicious) as independent variable and benign envy, malicious envy, intensity of negative affect, and deservingness scales as dependent variables. Descriptive and inferential statistics can be found in Table 3.1.[9]

The analysis revealed a multivariate effect of envy condition, $F(4, 117) = 27.57$, $p < .001$, $\eta_p^2 = .49$. As predicted, the benign envy condition had higher values on the benign envy scale than the malicious envy condition. For the malicious envy scale, the benign envy condition had lower values than the malicious envy condition. There was no difference between the benign and the malicious envy condition regarding the intensity of negative affect. However, in the former participants appraised the other person's advantage to be more deserved than in the latter. Thus, the manipulation of benign and malicious envy was effective.

Table 3.1. Descriptive and Inferential Statistics for the Manipulation Check of Study 3.1.

Variable	$M_{\text{Benign}}\,(SD)$	$M_{\text{Malicious}}\,(SD)$	$F(1, 120)$	p	η_p^2
Benign Envy	5.20 (0.95)	4.44 (1.06)	17.25	$< .001$	.13
Malicious Envy	2.22 (1.42)	3.69 (1.54)	29.84	$< .001$	.29
Intensitity of Negative Affect	4.93 (1.55)	5.30 (1.34)	2	.21	.02
Deservingness	5.27 (1.66)	2.40 (1.49)	99.37	$< .001$	.45

Note. Answers were given on a scale from 1 (*does not apply at all*) to 7 (*applies very much*).

Pride. We hypothesized that pride would occur frequently and equally often in benign and malicious envy situations. This is a prerequisite for our more specific predictions. In total, 56% of all participants indicated that the envied person openly displayed pride with no difference between the benign (53%) and the malicious envy conditions (59%), $\chi^2(1) = 0.43$, $p = .51$.

In addition, authentic pride should be more prevalent in benign than in malicious envy episodes, whereas the reverse should be true for hubristic pride. To test this hypothesis, we conducted a repeated-measures ANOVA with envy condition (benign vs. malicious) and scale (authentic vs. hubristic) as independent variables with repeated-measures on the last factor. The results are depicted in Figure 3.1. The analysis revealed main effects of envy condition, $F(1, 120) = 7.78$, $p = .01$, $\eta_p^2 = .06$, and scale, $F(1, 120) = 120.19$, $p < .001$, $\eta_p^2 = .50$, that were qualified by our predicted interaction, $F(1, 120) = 23.22$, $p < .001$, $\eta_p^2 = .16$. Although descriptively there was more authentic pride in the benign ($M = 4.09$, $SD = 0.86$) than in the malicious envy condition ($M = 3.90$, $SD = 0.88$), this effect was not significant, $F(1, 120) = 1.41$, $p = .24$, $\eta_p^2 = .01$. However, hubristic pride was significantly lower in the

[9] Correlations among all measures for Studies 3.1 to 3.4 and central measures of Study 3.6 can be found in Appendix B (Tables B2, B3, B5, B7, and B8).

benign ($M = 2.16$, $SD = 1.20$) than in the malicious envy condition ($M = 3.15$, $SD = 1.18$), $F(1, 120) = 21.1$, $p < .001$, $\eta_p^2 = .15$.

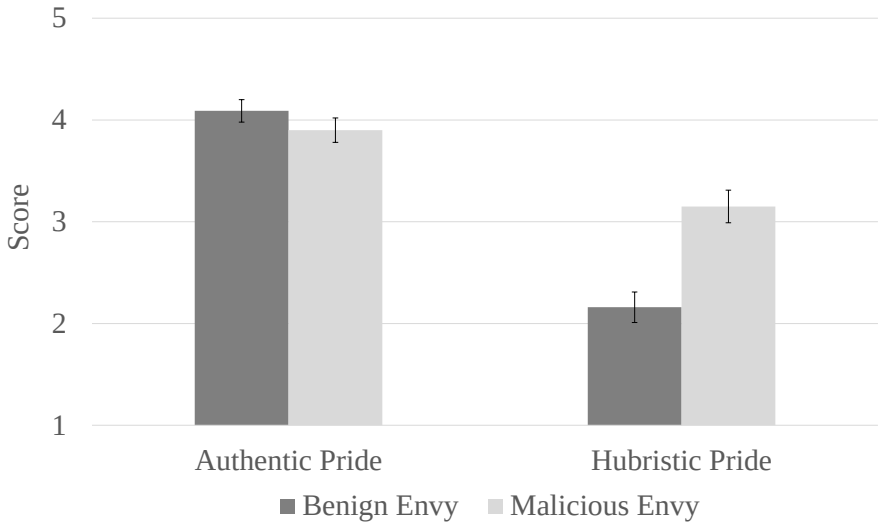

Figure 3.1. Effects of benign and malicious envy on authentic and hubristic pride ratings in Study 3.1. Error bars represent one standard error of the mean.

3.4.3 Discussion.

Study 1 provides initial evidence in line with our predictions. More than half of the participants indicated that the envied person displayed pride independent of the type of envy situation. Thus, as hypothesized, pride and envy frequently co-occur and might therefore affect each other. In accordance with this notion, in the benign envy condition, participants descriptively perceived the envied person's pride to be more authentic. In contrast, in the malicious envy condition, participants perceived the envied person's pride to be more hubristic. Note that benign envy was overall more strongly endorsed than malicious envy and authentic pride more so than hubristic pride. This is likely the case because malicious envy and hubristic pride are more socially undesirable and therefore more difficult to agree to. However, this does not affect the conclusions as our predictions focused on comparisons of authentic and hubristic pride between the two envy conditions.

In sum, pride seems to be relevant in envy situations. But does it also have incremental value in explaining envious reactions? In particular, can a pride display of another person increase envy and modulate it toward its different forms? To answer these questions, we manipulated pride in the following experiments using a diverse set of methodological approaches.

In Study 2, we took advantage of the fact that pride displays can be ambiguous with regard to their potential to convey either authentic or hubristic pride (Tracy & Robins, 2007b). This allowed us to test whether such a display would increase envy (compared with a neutral control condition). Furthermore, it allowed to collect correlational evidence on the relationship of the perceived pride forms with benign and malicious envy—depending on how perceivers disambiguated the pride expression spontaneously in a naturalistic situation.

3.5 Study 3.2

In Study 3.2, we examined whether a superior person's pride display contributes to envious feelings and behavioral intentions above and beyond mere high achievement. To do so, we manipulated whether a confederate who won a competition with the participant displayed pride or no specific emotion. We confronted participants with an ambiguous pride display that can either be perceived as authentic or hubristic pride. We measured the amount of envy that participants experienced as well as their resulting behavioral intentions. We also asked for the specific type of pride perceived by them to test whether authentic pride modulates envy more toward benign intentions than hubristic pride. We expected the reversed pattern for malicious intentions. Because, objectively, the participants were always outperformed by the confederate in the same way, any difference between the pride and control condition can be attributed only to the presence of pride and not simply to high achievement.

3.5.1 Method.

Participants. One hundred twenty-seven university students participated in Study 3.2. They were compensated with a choice among various snacks. In this study, we did not include several demographic questions less relevant for research with students (e.g., education) and the items for the exclusion criteria (questions from Meade & Craig, 2012) used in the other studies. This was done to keep the study within the narrow time constraints of the research lab. However, we a priori decided to exclude non-native speakers ($n = 7$). Our elicitation of envy relied on a language-based achievement task in which participants had to identify the longest word in an anagram. It was necessary to make this task rather difficult and the best solution hard to find even for native speakers. We therefore suspected that non-native speakers would not see the confederate as a relevant comparison standard, which is a precondition for envy (e.g., Schaubroeck & Lam, 2004). Hence, the final sample included 120 participants with a mean age of 22.4 years ($SD = 3.07$). Forty of them were male.

Materials and procedure. The experimenter approached participants in a crowded hallway inviting them to a study investigating the effect of competitive situations on achievement. After recruiting the participant, the experimenter ostensibly approached another participant who ac-

tually was a gender-matched confederate sitting in the hallway looking at her/his smartphone. In total, we had three female and two male confederates. The experimenter was always the same female research assistant. She guided both the participant and the confederate to the lab. The confederate was instructed to not interact with the participant. If the participant would initiate any conversation, the confederate should reply with a neutral tone and short sentences.

In the lab, the experimenter stood behind a lectern and asked the confederate to position her- or himself left to a table in front of her and the participant right to it. Both were then introduced to the anagram task. In the task, participants had to generate the longest word they could find using all or a subset of the letters from a string (Crusius & Mussweiler, 2011). The string was presented on a sheet of paper attached to a board and they had 30 s to write down their solution on a small sheet of paper on a clipboard. The person with the longest word would receive one point. The person with the highest number of points would win the respective round. Participants expected to play two rounds of the game. This was necessary for the content of the dependent measures, which participants completed after the first round. However, we stopped after the first round.

As an incentive, each person could earn one of several attractive snacks (several fruits and chocolate bars) as a reward, if this person had won one round. The experimenter always asked the participant to choose first what s/he would like to have as a possible reward. To increase the potential intensity of envy, our confederate always chose the same reward as the participant.

Subsequently, there were one practice trial and four critical trials in Round 1. In fact, the competition was rigged. Participants always won the practice trial and the first trial. Afterward, the confederate won the last three trials, and, as a consequence, surpassed the participant in Trial 3 and finally won in Trial 4. This was ensured as follows. The letter strings were rather long. They always allowed multiple solutions of various lengths. However, there was only one solution with all letters, which was extremely difficult to find. For example, one of the letter strings was *tesnhmyhreac*. The corresponding solution including all letters was *Chrysantheme* (chrysanthemum). Nevertheless, there were always more than 32 possible solutions of different lengths, such that each participant would always find a solution.

The experimenter had a list on her lectern enumerating all the possible solutions for each letter string. The list could not be seen from the participants' spot. At the end of each trial, she collected the sheets from the participant and the confederate and then also took them with her to the lectern. Although the confederate was instructed to always write down something on the sheet after a reasonable amount of time, her/his sheet was not considered by the experimenter. Actually, she would look at the participant's solution and quickly browse through her list in order to find a shorter (practice trial and Trial 1) or longer solution (Trials 2 to 4) and finally reading them out aloud. The respective winner was given a point marked on the board. As participants never found the longest word, we always had the opportunity to let the confederate excel them. At the end of Round 1, the confederate took the reward from the table right in

front of the participant.

We randomly allocated participants to two different conditions, varying the emotional display of the confederate. In the neutral condition ($n = 61$), the confederate would behave neutrally without emotional change during the competition. In the pride condition ($n = 59$), the confederate expressed pride twice, once after s/he had surpassed the participant in Trial 3 and for a second time after winning in Trial 4. The first pride display was a single fist with the right hand and a bent arm. The second pride display was expressed by raising both arms and fists, expanded posture, head tilted backward, and a slight smile (Tracy & Robins, 2004b). The confederate also strengthened both displays by simultaneously exclaiming „Yes!“ (see Figure 3.2; demonstration videos are available online http://dx.doi.org/10.1037/pspi0000026.supp).

Figure 3.2. Screenshots from videos of a female actor displaying the single fist pride display (left panel) and a male actor displaying the double fist pride display (right panel) as used in Study 3.2.

We pretested three pride displays, the two from the main study (single fist, $n = 42$, and double fist, $n = 45$) and a third one with hands in hips (called hands akimbo, $n = 26$), head tilted backward, expanded posture, and a slight smile (Tracy & Robins, 2004b) with native speakers from the same population ($N = 113$). Participants imagined being in the situation from the main study, namely that they participate and lose in a competition regarding vocabulary and creativity. Then, they saw videos of gender-matched research assistants posing each display and indicated what they thought was the displayed emotion: happiness, pride, shame, or no emotion (Tracy & Robins, 2004b). Afterward, they chose among three

options whether they thought the person in the video felt accomplished, achieving, confident, fulfilled, productive, had self-worth, and felt successful (authentic pride), arrogant, conceited, egotistical, pompous, smug, snobbish, and stuck-up (hubristic pride), or felt neither of these (Tracy & Prehn, 2012). Finally, participants indicated how realistic and credible they think such a display would be in this situation on a scale from 1 to 4, with high ratings corresponding to high realism and credibility. The latter two ratings were highly correlated, $r(113) = .76$, $p < .001$, and therefore collapsed as a rating of appropriateness. All three displays were rated equally highly as expressing pride, $p(\text{pride}|\text{single fist}) = .86$, $p(\text{pride}|\text{double fist}) = .80$, $p(\text{pride}|\text{hands akimbo}) = .92$, $\chi^2(2) = 1.98$, $p = .37$. However, the single fist, $p(\text{authentic}) = .50$, $p(\text{hubristic}) = .43$, and the double fist, $p(\text{authentic}) = .53$, $p(\text{Hubristic}) = .44$, were equally likely in being perceived as authentic or hubristic pride, whereas hands akimbo was biased toward hubristic pride, $p(\text{authentic}) = .04$, $p(\text{hubristic}) = .89$, $\chi^2(4) = 20.13$, $p < .001$. Additionally, regarding their appropriateness, the single fist ($M = 2.61$, $SD = 0.82$) and the double fist ($M = 2.38$, $SD = 0.77$) were seen as more appropriate than hands akimbo ($M = 1.96$, $SD = 0.63$), both ps $< .08$, whereas the former two did not differ, $p = .34$. This resulted in a main effect of display on appropriateness ratings in a univariate ANOVA, $F(2, 110) = 5.78$, $p = .004$, $\eta_p^2 = .10$. As we were interested in using displays that were perceived as pride expressions and that were equally likely to be interpreted as authentic or hubristic pride and nevertheless appropriate, we chose the single fist and double fist for the main study.

In the main study, after losing against the confederate, the experimenter announced that the participant should now complete a short questionnaire before the alleged second round. The questionnaire measured our focal dependent variables. They were completed at two separate desks, one for the confederate and one for the participant. Both were separated by a partition. The experimenter stayed behind her lectern. Confederates received a questionnaire stating „For the winner“ and participants received a questionnaire stating „For the second winner.“ We included two filler questions about the participants' subjective feelings of time pressure and stress to mask the aim of our study. As dependent variables, participants indicated how they thought the other person felt using the item from the pretest for authentic and hubristic pride. Then, participants reported how envious they were of the confederate. For this item we used the German adjective *neidisch*, which, as its English translation *envious*, encompasses both the benign and the malicious form of envy. Finally, we measured benign and malicious intentions with items capturing the motivational dynamics associated with the two forms. Specifically, we directly adapted all items from Van de Ven, Zeelenberg, and Pieters (2012; Study 2). Two items measured benign envy („I feel inspired to do my best in Round 2“ and „I am motivated to exert more effort in Round 2“; $r_s = .80$, $p < .001$) and two other items measured malicious envy („I would like to gossip about the other person“ and „I wish that the other person performs worse in round 2“; $r_s = .16$, $p = .08$). The low correlation among the

malicious envy items was unexpected as this was not the case in Van de Ven et al. (2012) and Studies 3.3 and 3.4 in which we used similar items. However, based on the conceptualization of envy and our a priori analysis plan, we nevertheless averaged them. To account for their low correlation, we also ran all analyses with the individual items and report when results differ for them. All responses were given on a scale from 1 (*not at all*) to 7 (*very much*).

Finally, participants were debriefed and compensated with the snack they had initially chosen as potential reward. No participant indicated that s/he was suspicious about the veracity of the study.

3.5.2 Results.

Manipulation check. We predicted that participants perceived higher authentic and hubristic pride expressed by their competitor in the pride condition compared with the neutral condition. Authentic and hubristic pride should be equally distributed across the pride condition as they were in our pretest. We used a χ^2-test with display condition (pride vs. neutral) as independent variable and pride perception (authentic pride vs. hubristic pride vs. neutral) as dependent variable to test whether our manipulation was successful.

In the pride condition, authentic pride was perceived in 59% of the cases, hubristic pride was perceived in 19% of the cases, and participants perceived no emotion in 22% of the cases. In the neutral condition, the respective values were 48% for authentic pride, 3% for hubristic pride, and 49% for no emotion. This overall difference was significant, $\chi^2(2) = 13.49$, $p = .001$. Thus, our manipulation was successful but not ideal. Unexpectedly, some participants interpreted the confederate's feelings as authentic pride even in the absence of any emotion display. This might have happened because the confederate always won the competition leading participants to infer prestige and correspondingly authentic pride (Cheng et al., 2010) even in the absence of a display. Furthermore, in contrast to the pretest, authentic pride was more frequently perceived than hubristic pride ($p < .001$). One explanation might be that the impersonal situation in the pretest did not invoke as much social desirability concerns compared to the main study. Nevertheless, and most importantly, pride was perceived more often in the experimental condition than in the neutral condition, which is the crucial prerequisite for testing pride's effect on envy.

Effect of pride on envy. We reasoned that a pride display upon success represents an expression of status enhancement, which, if perceived by the inferior person, will intensify envy. This was indeed the case. Descriptive and inferential statistics can be found in Table 3.2. In the pride condition, participants were more envious than in the neutral condition.[10]

[10] If participants who did not perceive pride in the pride condition are excluded from the analyses, the pride condition ($M = 2.50$, $SD = 1.44$) also leads to more envy than the neutral condition ($M = 1.98$, $SD = 1.07$), $F(1, 105) = 4.52$, $p = .04, \eta_p^2 = .04$.

Furthermore, we expected pride to spur benignly envious and maliciously envious intentions. In line with this prediction, pride displays elicited more malicious envy compared with the neutral display. However, the pride condition did not result in higher ratings on benign envy than the neutral condition.

Table 3.2. Descriptive and Inferential Statistics for the Effect of Display Condition on Envy in Study 3.2.

Variable	$M_{\text{Pride}}\,(SD)$	$M_{\text{Neutral}}\,(SD)$	$F(1, 118)$	p	η_p^2
General Envy	2.44 (1.48)	1.98 (1.07)	3.78	.054	.03
Benign Envy	4.37 (1.72)	4.48 (1.63)	0.11	.74	.001
Malicious Envy	2.69 (1.20)	2.11 (1.03)	8.12	.01	.06

Note. Answers were given on a scale from 1 (*not at all*) to 7 (*very much*).

When interpreting these effects, it is important to keep in mind that the tests for the effects of display condition on benign and malicious intentions are very conservative. According to our reasoning, authentic pride should modulate envy more toward benignly envious intentions and hubristic pride should modulate envy more toward maliciously envious intentions. At the same time, the pride condition should increase authentic and hubristic pride perceptions compared with the neutral condition and therefore increase both, benign and malicious intentions. Note that these two effects work against each other. Given that the control condition also led to a fair amount of authentic pride perceptions, it was much harder for an effect on benign envy to be revealed. We therefore also tested whether general envy mediates the effects of display condition on benign and malicious envy even in the absence of a direct effect for benign envy. This can occur, if different effects cancel each other out (Hayes, 2009) as was likely the case in our study. Our reasoning was that the general emotion term *envious* can be used with respect to both benign envy and malicious envy. It should therefore link the effect of the display condition to both of their respective motivational tendencies.

In a mediation analysis with 5,000 bootstrap resamples and bias-corrected confidence interval (Preacher & Hayes, 2008), we found a mediation effect of display condition on benign intentions via general envy, $ab = -0.168$, 95% CI $[-0.457; -0.012]$. The same analysis with malicious envy as dependent variable also revealed a significant mediation effect, $ab = -0.165$, 95% CI $[-0.362; -0.005]$.[11] Thus, as predicted, pride displays fostered envy in its benign and malicious form. The mediation effects are depicted in Figure 3.3.

[11] The mediation was not significant for the item related to gossiping, $ab = -0.03$, 95% CI $[-0.13; 0.03]$ but only for the item related to wishes for worse performance, $ab = -0.31$, 95% CI $[-0.69; -0.01]$.

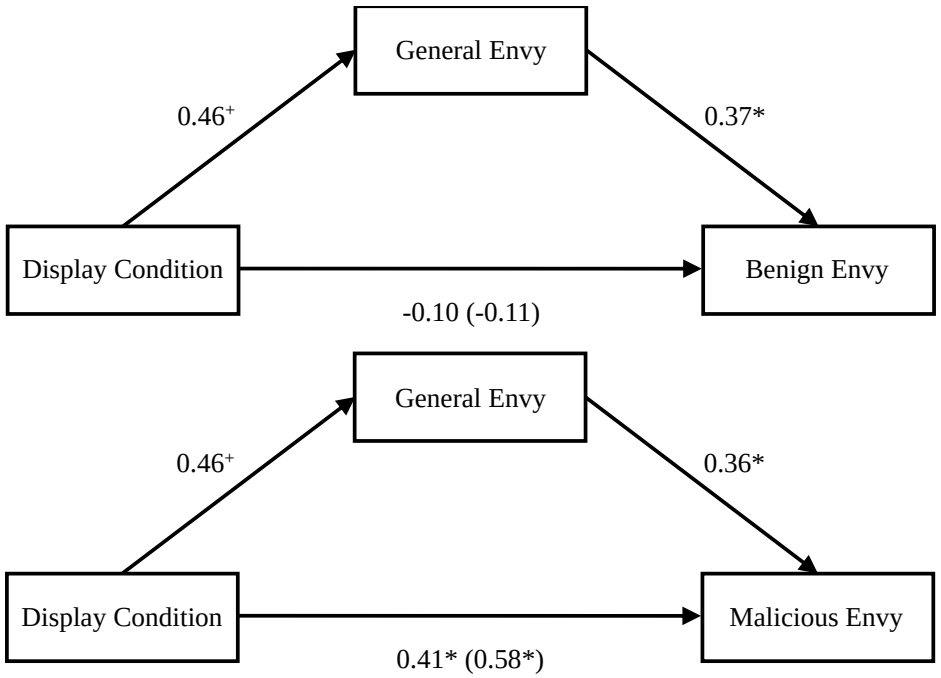

Figure 3.3. Mediation effects of display condition (1 = neutral, 2 = pride) on benign (upper panel) and malicious envy intentions (lower panel) via general envy feelings in Study 3.2. $^{+}p < .10$. $^{*}p < .05$.

In addition, we used the manipulation check as independent variable and compared participants who perceived authentic pride in the confederate ($n = 64$) with participants who perceived hubristic pride ($n = 13$). This constitutes a more direct, yet correlational test of our predictions. When participants perceived authentic pride, benignly envious intentions were higher ($M = 4.69, SD = 1.63$) than when they perceived hubristic pride ($M = 3.62, SD = 1.49$), $F(1, 75) = 4.82$, $p = .03$, $\eta_p^2 = .06$. Conversely, when participants perceived authentic pride, they were less likely to have maliciously envious intentions ($M = 2.34$, $SD = 1.07$) than when they perceived hubristic pride in their opponent ($M = 3.42$, $SD = 1.58$), $F(1, 75) = 9.22$, $p = .003$, $\eta_p^2 = .11$.[12] Thus, again as predicted, authentic pride was associated with more benign intentions and less malicious intentions than hubristic pride.

3.5.3 Discussion.

Study 3.2 shows the effect of pride on envy. Pride displays increased envy, thereby fostering benign and malicious intentions. Furthermore, compared with perceptions of hubristic pride, authentic pride was related to increased benign envy. This effect was reversed for mali-

[12]The effect was significant for the item related to gossiping ($M_{\text{Authentic}} = 1.19, SD = 0.43$; $M_{\text{Hubristic}} = 3.38, SD = 2.02$), $t(12.22) = -3.90$, $p = .002$ (Welch t-Test was chosen because of unequal variance correction), but not for the item related to wishes for worse performance ($M_{\text{Authentic}} = 3.50, SD = 2.04$; $M_{\text{Hubristic}} = 3.46, SD = 2.07$), $F(1, 75) = 0.02$, $p = .95$, $\eta_p^2 = .001$.

cious envy. A strength of the study is that we elicited envy in the lab, which is rarely done in envy research. Participants were in direct contact with confederates displaying pride, ostensibly in an actual competition.

However, the study also has limitations. Authentic and hubristic pride were not equally distributed across conditions and participants also perceived a substantial amount of authentic pride in the neutral condition. Presumably, this led to a nonsignificant effect of display condition on benign envy and very low power for testing the effects of authentic and hubristic pride perceptions on benign and malicious envy. Furthermore, the items measuring malicious envy were not strongly correlated. We think this was caused by a floor effect on these items. Although we actively tried to create a neutral relationship of the confederates with participants, they nevertheless seemed to like them. This is mirrored in their overwhelmingly authentic pride perceptions. Thus, only a small number of participants endorsed high values on the malicious items. Finally, the study allowed only a correlational test of the specific links of authentic and hubristic pride with benign and malicious envy.

To address these limitations, we used videos and vignettes in the three subsequent studies to directly manipulate whether actors displayed authentic or hubristic pride. When participants imagine emotional situations, they are less likely to be guided by social desirability concerns, but such studies nevertheless converge with results of real situations (Robinson & Clore, 2001). In Study 3.3, we tested the effects of authentic and hubristic pride on benign and malicious envy. Extending Study 3.2, we manipulated authentic and hubristic pride using videos. Drawing on the results of Nelson and Russell (2014) and our pretest of Study 3.2, we created pride videos depicting the face and the upper body.

Additionally, in Study 3.3 we included another control condition. The neutral condition in Study 3.2 evoked quite some inferences of pride on the side of the confederate although pride was never displayed. We think this was caused by the absence of any display, thereby fostering inferences based on the situation (see above). Therefore, in Study 3.3, we included a frequently expressed emotional display in response to success which reduces perceived status—embarrassment (Shariff & Tracy, 2009).

3.6 Study 3.3

In Study 3.3, we tested whether authentic and hubristic pride distinctively increase benign and malicious envy. Additionally we hypothesized that, as in Study 3.2, the pride forms would lead to these effects above and beyond mere high achievement. To investigate this hypothesis, we included another control condition in which the competitor displayed embarrassment following success.

3.6.1 Method.

Participants. Three hundred seven students of a large German University participated in Study 3. We excluded participants who indicated that we should not use their data ($n = 6$). The final sample size was $N = 301$ with a mean age of 22.04 years ($SD = 4.27$; one missing value). One hundred thirty participants were male.

Materials and procedure. In the instructions, we asked participants to imagine that they attended a seminar in which they had to take exams repeatedly. They wanted to do well on these exams and they seemed to do a good job in reaching this goal. But, very surprisingly, on their midterm exam, their grade was much worse than they hoped it would be. Furthermore they should imagine that, after all attendees had gotten their grade, they talked to another attendee called Tina/Tim (matching the participant's gender). Tina/Tim was among the best on this exam and also generally among the best in the seminar. Participants imagined that s/he was very happy about her/his result and that s/he had a grade that the participant would like to have as well. Then we introduced our manipulation. We varied whether Tina/Tim expressed authentic pride ($n = 102$), hubristic pride ($n = 102$), or embarrassment ($n = 97$) about her/his success. To do so, we showed a video of a gender-matched person who displayed the respective emotion.

The embarrassment display closely followed the expression described and validated by Keltner (1995). Its central components are a controlled smile, downward head tilt followed by movement to the side and finally up again, and touching the face. We integrated findings from Tracy and Robins (2007b), Nelson and Russell (2014), and our own experiences to create dynamic pride displays. The authentic pride display was similar to the single fist expression from Study 3.2 but with a less aggressive facial display. Important components were the single fist, an expanded posture, a slight smile, a gaze at the fist, and generally faster movement. The hubristic pride display was similar to the hands akimbo expression from Study 3.2. Important components were hands akimbo, an expanded posture, an asymmetric smile, directed gaze, head tilted back, leaning back, and generally slower movements. None of the videos contained audio information. The videos are available online as supplemental material.

To verify the efficiency of each display to convey the emotion, we conducted a pretest with 107 participants from the same population. After watching the authentic pride ($n = 30$), hubristic pride ($n = 37$), or embarrassment video ($n = 40$), participants indicated whether the displayed emotion was either anger, pride, embarrassment, happiness, disappointment, or no emotion. The authentic pride video, $p(\text{pride}|\text{authentic pride}) = .67$, and the hubristic pride video, $p(\text{pride}|\text{hubristic pride}) = .73$, were equally likely to be perceived as pride, $\chi^2(1) = 0.32$, $p = .58$. The embarrassment video was also perceived as embarrassment, $p(\text{embarrassment}|\text{embarrassment}) = .95$. The full pattern corresponded to a significant effect, $\chi^2(10) = 109.73$, $p < .001$. The authentic pride display was sometimes confused with

happiness, p(happiness|authentic pride) = .33. Nevertheless, it was marginally more often perceived as pride, $p = .07$. The hubristic pride display was not confused with one particular other emotion. Subsequently, participants indicated whether the person felt either accomplished, achieving, confident, fulfilled, productive, had selfworth, and felt successful (authentic pride), arrogant, conceited, egotistical, pompous, smug, snobbish, and stuck-up (hubristic pride), embarrassed, shy, abashed, rueful, ashamed, and affected (embarrassment), or neither of these. The options for authentic and hubristic pride were as in the pretest of Study 3.2. The embarrassment option was created according to the same scheme. The authentic pride video was perceived as authentic pride, p(authentic pride) = .94, the hubristic pride video as hubristic pride, p(hubristic pride) = .84, and the embarrassment video as embarrassment p(embarrassment) = .93. Other categories were negligible, which is important as the potential confusion of authentic pride with happiness would have resulted in more neither of these responses given that it did not convey pride. The present result instead implies that, even though authentic pride has some obvious resemblance to happiness (being a positive emotion), participants were able to identify the emotion in the way we intended. The full pattern corresponded to a significant effect, $\chi^2(6) = 171.34$, $p < .001$. The videos can be found online http://dx.doi.org/10.1037/pspi0000026.supp.

In the main study, after watching the videos, participants answered items measuring benign ($\alpha = .72$) and malicious envy ($\alpha = .87$) as well as intensity of negative affect ($\alpha = .74$). For a more conservative test of our hypothesis, we decided to exclude items from the benign and malicious envy scales that could be interpreted as having a semantic overlap with a positive attitude toward the envied person. For example, benign envy is associated with a stronger feeling of admiration for the other person than malicious envy. To this end, we included only items that focus on the motivational and behavioral components of benign (e.g., „I try harder to also obtain a good grade in the next exam“ and „Tina's/ Tim's success encourages me“) and malicious envy (e.g., „I wish that Tina/Tim would fail at something“ and „I would have liked to hurt Tina/Tim“). This is in line with research on benign and malicious envy, which has identified these distinct motivational tendencies as a crucial difference between the two forms of envy (see Footnote 7). All items can be found in Appendix B (Table B4).

3.6.2 Results.

We hypothesized that authentic pride would foster benign envy and hubristic pride would foster malicious envy. These hypotheses were confirmed. Descriptive and inferential statistics can be found in Table 3.3. A MANOVA with display condition (authentic pride vs. hubristic pride vs. embarrassment) as independent variable and benign envy, malicious envy, and intensity of negative affect as dependent variable revealed a multivariate effect of display condition, $F(6, 594) = 10.23$, $p < .001$, $\eta_p^2 = .09$. Post hoc Tukey's tests indicated that authentic pride

led to more benign envy than hubristic pride ($p < .001$) and embarrassment ($p = .001$). The latter two did not differ ($p = .62$). In contrast, hubristic pride led to more malicious envy than authentic pride ($p < .001$) and embarrassment ($p < .001$). The latter two did not differ ($p = .14$).

Unexpectedly, there was also a marginally significant effect of display condition on intensity of negative affect, mostly driven by a marginal effect between authentic and hubristic pride ($p = .06$). However, controlling for negative affect did not alter the level of significance of any finding. As we did not find similar effects in the other studies, this finding should be interpreted only with caution.

Table 3.3. Descriptive and Inferential Statistics for the Effect of Display Condition on Benign Envy, Malicious Envy, and Intensity of Negative Affect in Study 3.3.

Variable	$M_{\text{Auth}}\,(SD)$	$M_{\text{Hubr}}\,(SD)$	$M_{\text{Emba}}\,(SD)$	$F(2, 298)$	p	η_p^2
Benign Envy	4.10 (1.24)	3.35 (1.12)	3.50 (1.08)	12	$< .001$	.08
Malicious Envy	2.19 (1.21)	3.53 (1.65)	2.58 (1.51)	22.6	$< .001$	.12
Intensitiy of Negative Affect	4.21 (1.43)	4.66 (1.41)	4.35 (1.38)	2.27	.07	.02

Note. Answers were given on a scale from 1 (*not at all*) to 7 (*very much*).

3.6.3 Discussion.

Study 3.3 shows the predicted pattern. Authentic pride distinctively increased benign envy, whereas hubristic pride distinctively increased malicious envy. Importantly, when the competitor displayed embarrassment, both envy forms were low. Together with Study 3.2, this shows that the effect of pride on envy exists above and beyond perceiving others with high achievement.

3.7 Study 3.4

In Study 3.4, we investigated the underlying mechanisms of the relation of envy and pride. A prominent model that explains effects of emotions on observers is the emotions as social information model (EASI; Van Kleef, 2009; Van Kleef et al., 2011). According to this model, individuals observe another's emotion display, which causes affective reactions toward this person as well as inferences regarding this person's intentions and behavioral inclinations. These two pathways ultimately affect the individual's response. We argue that, in competitive situations, the affective pathway relates to the likability of the pride expressing person and the inferential pathway relates to how status is conveyed by this emotional display.

First, we hypothesize that authentic pride expressions are more likable (Cheng et al., 2013).

As liking breeds felt similarity (Collisson & Howell, 2014) and fosters assimilation toward another person (Mussweiler, 2003), authentic pride should therefore spur benign envy. In contrast, we hypothesize that hubristic pride expressions are less likable (Cheng et al., 2013). As less likable others' positive outcomes are rated as undeserved (Feather, 2006), an appraisal that elicits malicious envy (Van de Ven et al., 2012), hubristic pride should spur malicious envy.

Second, we hypothesize that status conferral corresponds to the inferential pathway in the EASI model. As alluded to above, we argue that envy is the emotional response to another's higher status. Importantly, pride's forms differ in how status is conveyed. Perceiving authentic pride is related to inferences of prestige (Cheng et al., 2010). Prestige operates through respect and signals that the individual is willing to share knowledge, skill, and knowhow (Cheng et al., 2013). This turns more successful individuals into means to improve performance (Crusius & Lange, 2014; Van de Ven et al., 2009, 2011a) thereby potentially spurring benign envy. Perceiving hubristic pride is related to inferences of dominance (Cheng et al., 2010). Dominance operates through fear and signals that the individual is willing to use force and intimidation in order to maintain the hierarchy (Cheng et al., 2013). This should undermine personal control over outcomes and therefore increase malicious envy (Van de Ven et al., 2012).

In sum, we hypothesized that authentic pride leads to a more likable impression and to inferences of prestige. Via these routes it should modulate envy more toward its benign form. In contrast, we expected hubristic pride to decrease perceived likability and to cause inferences of dominance. Via these routes it should modulate envy more toward its malicious form. To investigate these hypotheses, we asked participants to imagine being worse-off in a competitive situation and presented them with opponents who expressed either authentic or hubristic pride. Then, we measured liking, prestige, dominance, and benign as well as malicious envy.

3.7.1 Method.

Participants. Four hundred two mTurk workers participated in Study 3.4. We excluded participants who indicated we should not use their data ($n = 2$) and who indicated *neither of these* on the pride manipulation check item ($n = 3$). This was recommended by Tracy and Prehn (2012) as these participants perceived no pride at all. The final sample size was $N = 397$ with a mean age of 34.96 years ($SD = 10.98$; one missing value). Two hundred forty-one were male.

Materials and procedure. We used a similar paradigm as in Study 3.3. Participants again imagined being worse-off in a personally relevant exam. As we ran the study with U.S. participants, the superior comparison standards were now called Hillary or Joe (gender matched). In comparison to Studies 3.2 and 3.3, we employed a more established manipulation of pride relying on pictures from the University of California, Davis, Set of Emotion Expressions (Tracy,

Robins, & Schriber, 2009). Specifically, we showed a photograph of a person displaying pride with hands akimbo, expanded posture, head tilted backward, and a slight smile. We used the Caucasian expressers as this was the most frequent ethnicity in our sample. As shown by Tracy and Prehn (2012) the pride display in the photograph does not differentiate between authentic and hubristic pride. However, the expression can be disambiguated by knowledge about the proud person's attribution pattern. For authentic pride, this is the case if the person showing the expression attributes success to unstable, controllable causes (Tracy & Robins, 2007a). To achieve this in our study ($n = 231$), Hillary/Joe said „I did well on this exam because I studied hard." Perceivers will infer hubristic pride, if the person attributes success to stable, uncontrollable causes (Tracy & Robins, 2007a). To achieve this in our study ($n = 166$), Hillary/Joe said „I did well on this exam because I am talented." This text was inserted into a speech bubble accompanying the picture (Tracy & Prehn, 2012). As manipulation check, participants were asked to rate whether they think this person feels authentic pride, hubristic pride, or neither of these, as in the pretests of Studies 3.2 and 3.3.

Then, participants answered three items referring to liking of the person (e.g., „I think Hillary/Joe is a very nice person"; $\alpha = .84$) on a scale from 1 (*does not apply at all*) to 7 (*applies very much*). This was followed by nine items measuring prestige (e.g., „Her/his unique talents and abilities are recognized by others in the seminar"; $\alpha = .88$) and eight items measuring dominance (e.g., „S/he is willing to use aggressive tactics to get her/his way"; $\alpha = .91$) taken from Cheng and colleagues (2013, 2010). Participants responded on a scale from 1 (*not at all*) to 4 (*somewhat*) to 7 (*very much*).

Finally, participants answered items measuring benign ($\alpha = .74$) and malicious envy ($\alpha = .89$) as well as intensity of negative affect ($\alpha = .65$). As in Study 3.3, these scales did not include items that could be interpreted as having a semantic overlap with a positive attitude toward the envied person and therefore likability and prestige. All items can be found in the supplementary data (Table B6).

3.7.2 Results.

Manipulation check. We first checked whether our manipulation of pride was successful. Participants should interpret the person's display as authentic pride in the condition in which s/he attributes success to effort. In contrast, participants should interpret the person's display as hubristic pride in the condition in which s/he attributes success to talent. We used a χ^2-test with attribution (effort vs. talent) as independent variable and pride (authentic vs. hubristic) as dependent variable. The pride expression combined with an effort attribution was perceived as authentic pride in 67% of the cases (and therefore as hubristic pride in 33% of the cases). The pride expression combined with a talent attribution was perceived as hubristic pride in 70% of the cases (and therefore as authentic pride in 30% of the cases). This pattern corresponded to a

significant effect, $\chi^2(1) = 52.89$, $p < .001$, confirming that participants differentiated between authentic and hubristic pride on the basis of the given expressions. Thus, our manipulation was effective. Henceforth, we refer to the effort condition as authentic pride and the talent condition as hubristic pride.

Effect of pride on envy. As stated above, we argue that authentic pride leads to more benign and less malicious envy compared with hubristic pride. This should be mediated via increased liking and prestige versus dominance inferences. As subsidiary hypotheses, we predicted that there is no difference for the intensity of negative affect. To test this, we first used a MANOVA with pride condition (authentic pride vs. hubristic pride) as independent variable and benign envy, malicious envy, liking, prestige, dominance, and intensity of negative affect as dependent variables. This revealed a significant multivariate effect of pride condition, $F(6, 390) = 7.10$, $p < .001$, $\eta_p^2 = .10$. Descriptive and inferential statistics can be found in Table 3.4. Our predictions were confirmed. Authentic pride compared to hubristic pride led to more benign envy, less malicious envy, increased liking, more inferred prestige, and less inferred dominance. Also in line with our hypotheses, there was no difference in terms of the intensity of negative affect.

Table 3.4. Descriptive and Inferential Statistics for the Effect of Pride Condition on Benign Envy, Malicious Envy, Liking, Prestige, Dominance, and Intensity of Negative Affect in Study 3.4.

Variable	$M_{\text{Authentic}}\,(SD)$	$M_{\text{Hubristic}}\,(SD)$	$F(1, 395)$	p	η_p^2
Benign Envy	5.00 (1.13)	4.74 (1.07)	5.40	.02	.01
Malicious Envy	2.49 (1.49)	2.96 (1.54)	9.32	.002	.06
Liking	4.27 (1.45)	3.46 (1.36)	31.66	$< .001$	.07
Prestige	4.84 (0.98)	4.45 (1.01)	14.68	$< .001$	.04
Dominance	3.83 (1.26)	4.38 (1.23)	19.25	$< .001$	.05
Intensity of Negative Affect	4.86 (1.18)	4.90 (1.33)	0.05	.82	$< .001$

Note. Answers were given on scales from 1 to 7.

Then, we examined our predicted mediation effects with a structural equation model. In the model, pride condition served as independent variable. Benign and malicious envy served as dependent variables. Liking of Hillary/Joe as well as inferences of prestige and dominance served as parallel mediators. We included paths only from liking and prestige to benign envy (and not from dominance) and from liking and dominance to malicious envy (and not from prestige) given our specific hypotheses. The error terms of the mediators and the error terms of the envy forms were free to covary. We tested for mediation with 5,000 boot-

strap resamples and bias-corrected confidence intervals (Preacher & Hayes, 2008). The results of this mediation analysis can be found in Figure 3.4. The model fit was excellent, $\chi^2(4) = 3.66$, $p = .45$, $CFI = 1.00$, $RMSEA = .000$, 95% CI $[.000; .073]$. The total indirect effects of pride condition on benign envy, $ab = 0.36$, 95% CI $[0.21; 0.51]$, $p < .001$, and of pride condition on malicious envy were significant, $ab = -0.49$, 95% CI $[-0.67; -0.32]$, $p < .001$, as were all individual indirect effects (ps $< .001$).

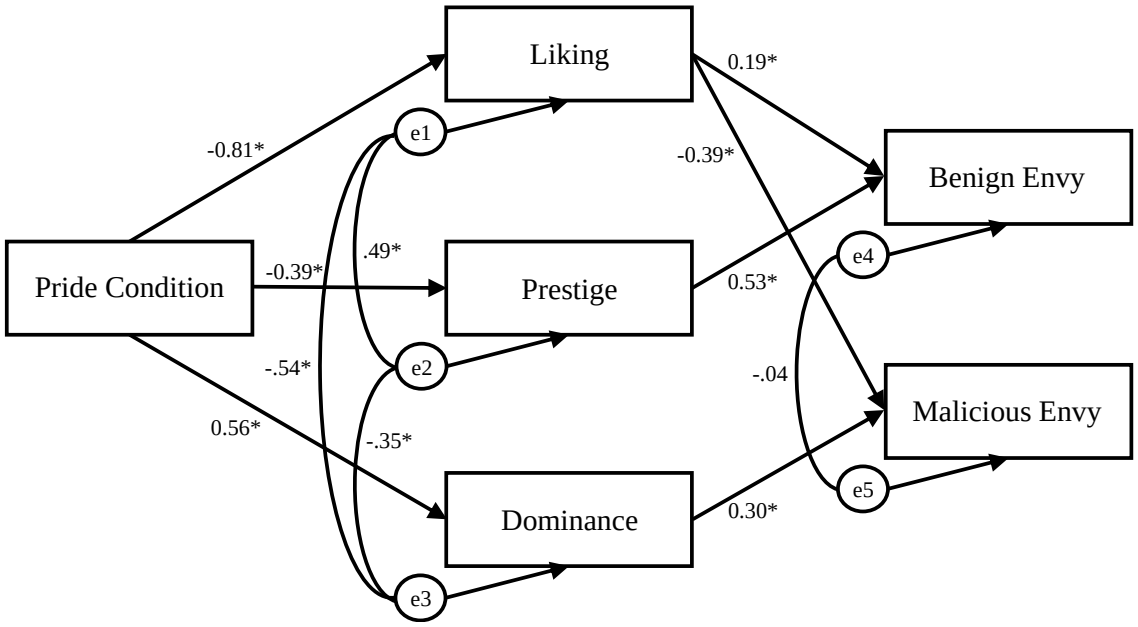

Figure 3.4. Mediation effect of pride (1 = authentic pride, 2 = hubristic pride) on envy via liking, prestige, and dominance in Study 3.4. Coefficients constitute unstandardized regression weights and correlation coefficients. $^*p < .001$.

An alternative model including the direct effects from pride condition on benign envy and malicious envy did not improve model fit $\Delta\chi^2(2) = 1.43$, $p = .49$. Both direct effects were not significant (ps $> .23$), reflecting the pattern of a full mediation. Furthermore, an alternative model including paths from prestige to malicious envy and dominance to benign envy did also not improve model fit, $\Delta\chi^2(2) = 2.08$, $p = .35$. Both direct effects were not significant (ps $> .21$), confirming the distinct relations of prestige and dominance inferences with benign and malicious envy.

3.7.3 Discussion.

Study 3.4 supports our contention that authentic pride modulates envy more toward its benign form and hubristic pride modulates envy more toward its malicious form mediated via liking and prestige versus dominance. These processes correspond to the affective (liking)

and inferential pathways (status inferences of prestige and dominance) of the EASI model (Van Kleef, 2009). This constitutes strong evidence that pride shapes envious responding.

We argue that the effect of pride on envy is social such that the superior person's pride display affects the inferior person's envy. To manipulate envy in Study 3.4, we presented photographs with pride expressions and added knowledge about success attributions to it. This procedure is based on the fact that authentic and hubristic pride may share the same ambiguous bodily display but can be differentiated with the help of these attribution patterns (Tracy & Prehn, 2012). However, a potential alternative explanation of these findings could be that this attribution information about the causes of another's success alone may suffice to elicit benign or malicious envy. More specifically, it might be that a person learns that one needs effort to be successful in a particular situation. This could lead to the impression that success is under personal control and therefore increase benign envy (Van de Ven et al., 2012). Such an effect might happen independently of any authentic pride display, simply via available knowledge in the environment. The same applies to the hubristic pride condition in which participants could learn that success is contingent on ability, thus, cannot be controlled, and then increases malicious envy (Van de Ven et al., 2012). Importantly, however, a social-functional approach predicts that even if this contextual knowledge alone may affect envy (e.g., via appraisals of personal control), a pride display of the superior person should modulate it more strongly. When knowledge about attribution patterns is conveyed by the pride displaying, superior person—as authentic or hubristic pride—this should elicit the specific complementary envious response in the inferior person to manage the increased status of the competitor. Thus, the effect of effort versus ability attributions on the modulation of envy should be greater when conveyed by a pride displaying person compared to when the very same information is conveyed by another source.

3.8 Study 3.5

The aim of Study 3.5 was to show that our effects are social in nature, thus, that they are based on the superior person displaying either authentic or hubristic pride and not simply caused by impersonal contextual knowledge. Participants were confronted with Hillary/Joe as in Study 3.4. In all cases, s/he displayed ambiguous pride. However, in one condition s/he also conveyed information about effort and ability requirements, thereby expressing either authentic or hubristic pride. In other conditions, this information was given by an omnipresent narrator (Tracy & Prehn, 2012). We predicted that effort attributions would shift envy more toward its benign form compared to ability attributions. This effect, however, should be stronger when information about the attribution pattern are presented by the person compared with an omnipresent narrator.

3.8.1 Method.

Participants. Four hundred six workers from mTurk participated in Study 3.5. We again excluded participants who indicated we should not use their data ($n = 10$) or indicated *neither of these* on the pride manipulation check ($n = 10$) as recommended by Tracy and Prehn (2012). Thus, the final sample size was $N = 386$. The mean age was 27.95 years ($SD = 7.96$) and 269 were male.

Materials and procedure. We asked participants to imagine the same situation as they did in Studies 3.3 and 3.4. They were randomly assigned to one of four conditions in a 2 (Attribution: effort vs. ability) X 2 (Source: person vs. narrator) between subjects design. The person conditions were the same as in Study 3.4. Participants imagined that having gotten their grade, they talked to Hillary/Joe (gender matched) who displayed pride and either said that s/he was successful because s/he studied hard (effort, $n = 88$) or is talented (ability, $n = 103$). In the narrator conditions, Hillary/Joe also displayed pride but there was no speech bubble. Instead, in the main text we either inserted the sentence „S/he did well on this exam because s/he studied hard“ (effort, $n = 103$) or „S/he did well on this exam because s/he is talented“ (ability, $n = 92$; Tracy & Prehn, 2012).

Afterward, participant indicated whether they perceived authentic pride, hubristic pride, or neither of these in Hillary/Joe as they did in the previous studies. Finally, participants rated their envy. As our predictions refer to modulations of envy between benign and malicious, we decided to simplify our design. Instead of separate scales, participants rated their agreement on a scale from 1 (*does not apply at all*) to 7 (*applies very much*) with seven items measuring the manifestation of envy (e.g., „Hillary/Joe inspires me to also obtain a good grade in the next exam.“ „I wish that Hillary/Joe would fail at something“ [reverse coded]). Items were recoded such that high values indicate benign envy and low values indicate malicious envy. Using this scale allowed us to more strongly pit the two poles of envy against each other. The resulting scale was reliable ($\alpha = .76$). The items can be found in Appendix B.

Note that the information is exactly the same in the person and narrator conditions. In all cases Hillary/Joe is proud of her/his success and this either depended on effort or ability. The conditions differ only in who conveys this information, the superior person herself/himself or an omnipresent narrator.

3.8.2 Results.

Manipulation check. We hypothesized that effort attributions would lead to perceptions of authentic pride and that ability attributions would lead to perceptions of hubristic pride. This should be more pronounced when they are displayed by the actor as compared with when they are conveyed by an omnipresent narrator. Thus, there should be a stronger effect of the

attribution on pride perceptions in the person conditions than in the narrator conditions.

In the person conditions, participants perceived the pride display with effort attributions as authentic pride in 70% of the cases (and therefore as hubristic pride in 30% of the cases). In contrast, participants perceived the pride display with ability attributions as hubristic pride in 69% of the cases (and therefore as authentic pride in 31% of the cases), $\chi^2(1) = 29.45$, $p < .001$. In the narrator conditions, we found a similar pattern that was considerably weaker. Participants perceived the pride display with accompanying effort attributions by the narrator as authentic pride in 54% of the cases (and therefore as hubristic pride in 46% of the cases) and with ability attributions they perceived it as hubristic pride in 61% of the cases (and therefore as authentic pride in 39% of the cases), $\chi^2(1) = 4.71$, $p = .03$. This pattern corresponded to a significant interaction effect of Attribution (effort vs. ability) X Source (person vs. narrator) in a logistic regression with Pride (0 = authentic pride, 1 = hubristic pride) as criterion, $B = -1.04$, $SE = 0.43$, $\chi^2(1) = 5.83$, $p = .02$, $OR = 0.35$, 95% CI $[0.15; 0.82]$. The interaction qualified main effects of attribution, $B = 2.70$, $SE = 0.7$, $\chi^2(1) = 15.09$, $p < .001$, $OR = 14.93$, 95% CI $[3.82; 58.41]$ and source, $B = 1.45$, $SE = 0.69$, $\chi^2(1) = 4.48$, $p = .03$, $OR = 4.27$, 95% CI $[1.11; 16.4]$.

Thus, our manipulation was effective. When the person displayed pride and indicated that s/he was successful because of invested effort or talent, respective authentic and hubristic pride perceptions were much more pronounced compared to the narrator conditions.

Effect of pride on envy. As the manipulation check showed that participants perceived authentic and hubristic pride when the emotion was expressed by Hillary/Joe, did this also modulate their envious responding? Our main hypothesis was that effort attributions will modulate envy more toward the benign form compared to ability attributions when displayed by the person compared to the narrator. This hypothesis was fully confirmed. The results are depicted in Figure 3.5.

In the person condition, participants' envy was more benign when Hillary/Joe attributed success to effort ($M = 5.48$, $SD = 1.11$) compared with when s/he attributed it to ability ($M = 4.86$, $SD = 1.06$), $F(1, 382) = 14.33$, $p < .001$, $\eta_p^2 = .04$. When contextual knowledge was conveyed by an omnipresent narrator, the effort condition ($M = 5.24$, $SD = 1.17$) did not differ from the ability condition ($M = 5.15$, $SD = 1.17$), $F(1, 382) = 0.33$, $p = .57$, $\eta_p^2 = .001$. In addition, in the effort condition, envy was descriptively more benign when the information was conveyed by the person compared with the narrator while the effect was not significant, $F(1, 382) = 2.10$, $p = .15$, $\eta_p^2 = .01$. In contrast, in the ability condition, envy was marginally more malicious when the information was conveyed by the person compared to the narrator, $F(1, 382) = 3.21$, $p = .07$, $\eta_p^2 = .01$.

Overall, this pattern corresponded to a significant interaction in an ANOVA with attribution (effort vs. ability) and source (person vs. narrator) as independent variables and envy as dependent variable, $F(1, 382) = 5.25$, $p = .02$, $\eta_p^2 = .01$. The interaction qualified a main

effect of attribution, $F(1, 382) = 9.58$, $p = .002$, $\eta_p^2 = .02$. The main effect of source was not significant ($F < 1$).

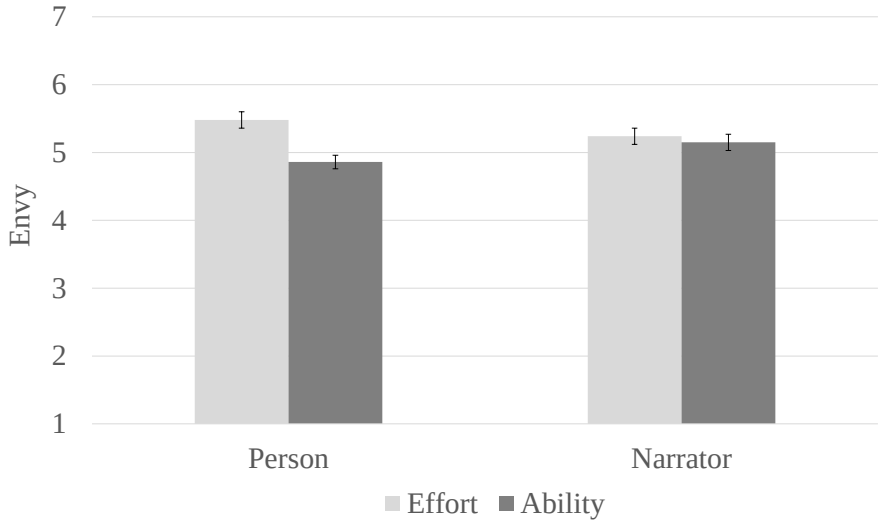

Figure 3.5. Interaction effect of attribution and source on envy in Study 3.5. High values on envy correspond to more benign envy, low values correspond to more malicious envy. Error bars represent one standard error of the mean.

3.8.3 Discussion.

Study 3.5 supports a social-functional view of envy and pride. Effort compared with ability attributions about success modulated envy more toward its benign form but only when they were conveyed by the person. If they were conveyed by an omnipresent narrator, the effect did not occur. Only when the superior person expressed pride via a display in concert with the corresponding attribution pattern—thus, as authentic or hubristic pride—envy was modulated. This implies that envy is intensified as a social response to another person's distinct status display. If the narrator presented the attribution information, participants lacked the respective knowledge to differentiate between authentic and hubristic pride on the side of the superior person and their envious response was not modulated.

So far, the data show that pride fosters envy. More specifically, authentic and hubristic pride affect benignly and maliciously envious intentions. These pathways are mediated via liking and inferred prestige as well as dominance. Nevertheless, we aimed at going beyond Studies 3.1 to 3.5 by assessing actual envious behavior. This is rarely done in envy research

(Smith & Kim, 2007) and would provide stronger evidence for the motivational effects revealed before. Do enviers actually intensify their effort in the face of an authentic pride expressing competitor? Do hubristic pride expressions really spur harmful behavior? We tested such effects of pride displays on envious behavior in Study 3.6.

3.9 Study 3.6

In Study 3.6, participants took part in an ostensible competition with items from the remote associates task (RAT) for a monetary reward and lost against their opponent. We afterward measured maliciously and benignly envious behavior by giving them the chance to select more difficult RAT items for their competitor and by giving them the chance to increase their effort in a second round of RAT items themselves.

3.9.1 Method.

Participants. One hundred ninety-eight workers from mTurk participated in Study 3.6. We again excluded everyone who indicated we should not use their data ($n = 2$). In addition, as participants competed in the RAT, a language-based achievement task, we a priori decided to exclude non-native speakers as we did in Study 3.2. Finally, as indicated by our log data, one participant used the back button during the second round of RAT items and therefore had more time to solve the task rendering the data meaningless. Thus, the final sample size was $N = 187$ with a mean age of 34.32 years ($SD = 11.38$). Ninety-nine were male.

Materials and procedure. Participants were invited to a study on the effect of competitive situations on personal action. We told them that they would compete against another mTurk worker and therefore had to choose a nickname. Then, we presented an ostensible selection process in which several nicknames of supposed other participants were displayed and denied because of mismatches in age and gender until *Alex14* was selected as competitor. We decided in favor of a gender-neutral name to increase felt similarity of participants and competitor without changing the nickname.

Afterward, we introduced the task in which they would compete. The task was based on items of the RAT (McFarlin & Blascovich, 1984). In the RAT participants have to find a semantically related word to three other words. In our study, participants had seven minutes to solve as many of eight items as possible. We told them that, based on the number of correct responses and the pretested difficulty of each item, we would calculate a final score. The competitor with the highest score would receive 50 cents as a bonus payment. Although rather small, such an incentive is higher than the typical average pay for a short task on mTurk. Therefore, we expected them to be highly motivated to win against their opponent.

In fact, the competition was manipulated. We included several very difficult items to

ensure that participants would not solve all the items. After a screen asking them to wait for Alex14, we gave them the feedback that of 147 points possible, they achieved 26 points. Alex14, however, achieved 124 points. Such a difference in performance should elicit envy and would be a realistic result to be proud of for Alex14 (Williams & DeSteno, 2008).

Afterward, participants were allowed to exchange a chat message with Alex14. We pretended to connect them to a chat server and Alex14 was the first to type in a message. Here we introduced our manipulation of pride. In contrast to the solely visual manipulations in Studies 3.2 and 3.3 and the combination of visual and verbal information in Studies 3.4 and 3.5, we chose a manipulation of authentic and hubristic pride with only verbal information. In the authentic pride condition ($n = 95$), Alex14 wrote „My reswult is awesome! I am very proud of myself that I won the competition and I am happy about the money I get!! Honestly, I really put lots of effort into the task...“ We purposely included a spelling mistake to make the message more realistic. In addition, by mentioning how great the success felt and how proud Alex14 was, we aimed at fostering envy on the side of the participant and communicate pride in the absence of a visual display. In the hubristic pride condition ($n = 92$), we changed only the last sentence to „Honestly, I am a natural talent...“ (adapted from Tracy & Prehn, 2012). Thus, Alex14 displayed pride in both cases but either attributed success to effort or to ability, thereby expressing either authentic or hubristic pride.

Then, participants first rated Alex14 and subsequently themselves on the same set of emotion terms. In this set we included several emotions related to victory and defeat to mask the aims of the study. Among them were our critical items measuring perceptions of feelings of authentic (accomplished, productive, achieving; $\alpha = .78$) and hubristic pride (arrogant, pompous, snobbish; $\alpha = .91$) adapted from Tracy and Robins (2007a). We also asked how envious they thought Alex14 is and how envious they felt. The filler items were ashamed, happy, proud, and sad.

Afterward, we told participants that they would work on a second round of items from the RAT, however this time without any competition. If they achieved 100 points, they would earn an additional bonus of 50 cents. We informed them that Alex14 would get the same chance and that they would have the opportunity to affect the set of items Alex14 would have to work on. Alex14, however, would not have the opportunity to affect the participant's set.

Then, we measured our central dependent variables. First, participants were presented with a choice among different RAT items. We did not present the actual items but provided them with a choice among eight *easy*, eight *average*, and eight *very difficult* items. Participants selected eight items in total that would then be presented to Alex14.

Second, participants again worked on eight RAT items for which they had 7 min. Given that we deliberately included several very difficult items among the set of only eight RAT items, we expected to find an effect of pride on persistence but not on performance. This notion is supported by the finding that performance and persistence on the RAT were only

moderately correlated, $r(187) = .28$, $p < .001$. Even if participants put more effort into solving the task, the extreme difficulty of some of the items impeded that this increased effort could be translated into substantial performance gains.

At the end of the study, participants were debriefed that there was no actual competitor and everyone was compensated with an additional dollar, the maximum amount of money they potentially could have earned during the ostensible competition of the study.

3.9.2 Results.

Manipulation check. We tested whether participants perceived authentic and hubristic pride in Alex14 in the respective condition and whether participants were equally envious across the two conditions. First, we hypothesized that, in the authentic pride condition, in which Alex14 attributed success to effort, authentic pride ratings should be higher compared with the hubristic pride condition in which Alex14 attributed success to ability. The reversed should be true for the hubristic pride scale. This prediction was confirmed. Descriptive and inferential statistics can be found in Table 3.5. Participants endorsed more authentic pride in the authentic pride condition than in the hubristic pride condition. Participants endorsed less hubristic pride in the authentic pride condition than in the hubristic pride condition. This corresponded to a significant interaction effect in a mixed ANOVA with pride (authentic pride vs. hubristic pride) and scale (authentic pride vs. hubristic pride) as independent variables with repeated-measures on the last factor, $F(1, 185) = 39.83$, $p < .001$, $\eta_p^2 = .18$. The interaction qualified main effects of pride, $F(1, 185) = 15.71$, $p < .001$, $\eta_p^2 = .08$, and scale, $F(1, 185) = 16.73$, $p < .001$, $\eta_p^2 = .08$. Thus, our manipulation was effective in manipulating pride. Based on the attributions mentioned in the chat message, Alex14 was either perceived as being authentically proud or hubristically proud.

Second, we hypothesized that participants would report envy and that they would feel so equally strongly in both conditions. Although authentic and hubristic pride modulate envious responding more toward benign or malicious envy, they should spur general envy to the same degree. Indeed, in the authentic pride condition and the hubristic pride condition, participants were equally envious.

Table 3.5. Descriptive and Inferential Statistics for the Manipulation Checks of Study 3.6.

Variable	$M_{\text{Authentic}}\,(SD)$	$M_{\text{Hubristic}}\,(SD)$	$F(1, 185)$	p	η_p^2
Authentic Pride	3.88 (0.91)	3.57 (0.94)	5.36	.02	.03
Hubristic Pride	2.68 (1.24)	3.82 (1.12)	43.59	$< .001$	.19
General Envy	2.37 (1.24)	2.09 (1.29)	2.29	.13	.01

Note. Answers were given on a scale from 1 (*does not apply at all*) to 5 (*applies very much*). One missing value for general envy.

Effect of pride on envy-driven behavior. Did the perception of authentic and hubristic pride affect behavioral outcomes of benign and malicious envy?

Set difficulty. We first tested whether pride had an effect on the difficulty of the set. To calculate a difficulty score, we assigned a value of 1 for each *easy* item chosen by the participant, a value of 2 for each *average* item, and a 3 for each *very difficult* item, and then summed up all values. Thus, this score can vary from 8 (only *easy* items) to 24 (only *very difficult* items). Thus, higher values imply more assigned set difficulty. As alluded to above, when participants perceived hubristic pride in Alex14 they should feel malicious envy and therefore select more difficult RAT items. The social goal of malicious envy is to harm the position of the envied person. Thus, participants should be motivated to hinder Alex14 to remain a high-achiever and therefore give her/him more difficult items. This hypothesis was confirmed (see Figure 3.6 left panel). Set difficulty was lower in the authentic pride condition ($M = 17.79$, $SD = 5.70$) than in the hubristic pride condition ($M = 19.46$, $SD = 5.49$). This corresponded to a main effect in an ANOVA with Pride (authentic pride vs. hubristic pride) as independent variable and set difficulty as dependent variable, $F(1, 185) = 4.14$, $p = .04$, $\eta_p^2 = .02$.

RAT. Next, we investigated the hypothesis that perceiving authentic pride would spur benign envy and therefore increase effortful behavior directed at increasing one's own status. Such behavior would fulfill the social goal of the envier. In this case, participants should persist longer in the second round of RAT items. In particular, all RAT items were presented to participants on the same page. Participants were free to proceed to the next page whenever they wanted to. We measured persistence as the total time spent on this page. Our hypothesis was confirmed (see Figure 3.6 right panel). As we set a maximum value of time spent on the RAT items of 7 min, we examined the effect of pride on persistence in a Kaplan-Meyer Survival Analysis. In such a case, an ANOVA is not appropriate (Van de Ven et al., 2011a). As predicted, participants persisted longer in the authentic pride condition ($M = 205$s, $SE = 13$, $Mdn = 173$s, $SE = 13$) than in the hubristic pride condition ($M = 168$s, $SE = 12$, $Mdn = 129$s, $SE = 7$), Breslow $\chi^2(1) = 4.78$, $p = .03$.

Although not predicted, we nevertheless checked whether pride had an effect on performance in the RAT. Descriptively, participants solved on average more RAT items in the authentic pride condition ($M = 4.27$, $SD = 1.65$) than in the hubristic pride condition ($M = 4.08$, $SD = 2.05$), yet, this difference was not significant in an ANOVA with pride (authentic pride vs. hubristic pride) as independent variable and performance as dependent variable, $F(1, 185) = 0.53$, $p = .47$, $\eta_p^2 = .003$. Again, this null effect was to be expected given that we deliberately administered a number of very difficult items in a set of only eight RAT items to be able to measure persistence.

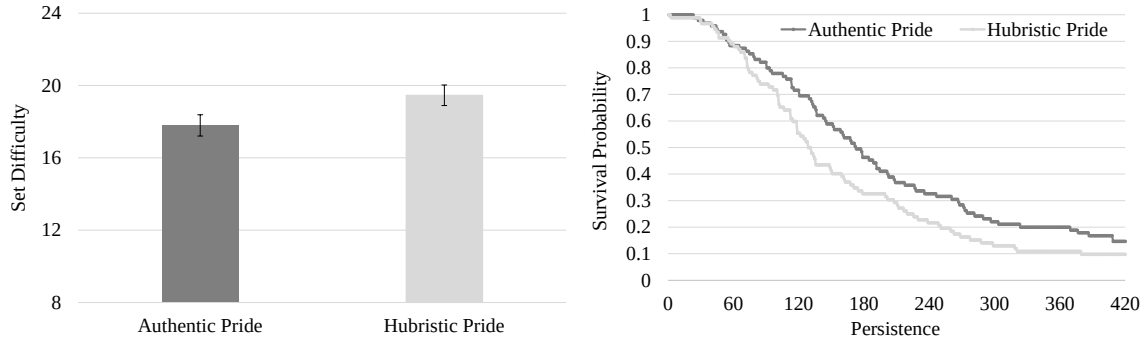

Figure 3.6. Effects of authentic and hubristic pride on set difficulty (left panel) and persistence on the RAT (right panel) in Study 3.6. Error bars represent one standard error of the mean.

3.9.3 Discussion.

Study 3.6 presents behavioral evidence for the relation of authentic and hubristic pride with benign and malicious envy. Authentic pride of the envied person caused participants to select easier RAT items for this person and to persist longer in a second round of RAT items compared with hubristic pride. This extends the findings from Studies 3.1 to 3.5 to behavioral outcomes. Together, these results show that enviers set the goal to improve their performance or to harm an envied person following her or his authentic or hubristic pride expression and that they ultimately act on these intentions. This is strong evidence in favor of a social-functional relation of envy and pride.

3.10 General Discussion

Six studies provide converging evidence for a social-functional relation of envy and pride in competitive situations. Pride's social goal is status enhancement. In their competitors, the pride of successful people is met with envy, its complementary emotion. The social goal of envy is to level the difference between the self and the upward standard. The six studies reveal that pride displays often co-occur with envy (Study 3.1) and substantially increase its intensity (Study 3.2). In particular, pride expressions modulate the specific pathway of envious responding (Study 3.2 to 3.6) above and beyond high achievement (Studies 3.2 and 3.3). Authentic

pride causes a likable impression and leads to perceptions of prestige. Through this pathway, it modulates envy toward its benign form. Hubristic pride causes a less likable impression and leads to perceptions of dominance. Through this pathway, it modulates envy toward its malicious form (Study 3.4). In accordance with a social approach to emotions, this effect is based on the person who displays pride and not simply on knowledge about the reasons for success available in the situation (Study 3.5). Finally, people not only feel more benign or malicious envy upon perceiving authentic or hubristic pride in their competitors, they also act on their goal with behavior that is either directed at moving upward, or aimed at damaging the status of the other (Study 3.6). These findings converged in a methodologically diverse set of studies. They were conducted with German (Studies 3.2 and 3.3) and U.S. participants (Studies 3.1 and 3.4 to 3.6), in the lab (Studies 3.2 and 3.3) and online (Studies 3.1 and 3.4 to 3.6). Envy was recalled (Study 3.1), elicited in situ (Studies 3.2 and 3.6) or captured by vignettes (Studies 3.3 to 3.5) and pride was either measured (Study 3.1) or manipulated in a face-to-face interaction (Study 3.2), via videos (Study 3.3), in pictures (Studies 3.4 and 3.5), or verbally (Study 3.6).

These results extend research on envy and pride in several important ways. First, they highlight the value of investigating how these two emotions interact in social relationships, instead of investigating them in isolation. In particular, the present studies reveal that the active behavior of the superior person is important to understand how envy is elicited and modulated. Previous research on envy has typically focused on intrapersonal variables. Felt similarity, domain relevance, appraised deservingness and felt personal control (Smith & Kim, 2007; Van de Ven et al., 2012) can shape envy even in the absence of pride. Nevertheless, the current findings underline the importance of taking the interpersonal and interactive nature of envy and pride into account. In particular, as such an approach opens up numerous new avenues for future research.

For instance, a social-functional approach might also be applied to envy and pride on the group level. Many emotions such as anger, guilt, shame, or regret are also felt toward other social groups (MacKie, Silver, & Smith, 2004). We believe that envy might also be a response toward superior status groups and that perceptions of pride may shape envy toward them. Pride's social goal to convey status fosters perceptions of competence (e.g., Martens & Tracy, 2012). Furthermore, authentic and hubristic pride vary in likability (Study 3.4). Thus, inherent in pride displays is information about both competence and warmth, the two basic dimensions which play an important role in emotional reactions toward social groups, as depicted by the stereotype content model (Fiske, 2010). Previous research has focused exclusively on the malicious form of envy, showing that competent and cold groups elicit envy and that joint effects of high status and competitiveness determine envious reactions (Caprariello, Cuddy, & Fiske, 2009; Eckes, 2002). Given our reasoning, authentic pride should convey both warmth and competence, which should foster benign envy. However, according to the stereotype

content model, warm and competent groups should elicit admiration and not envy (Caprariello et al., 2009; Fiske, 2010). Admiration is a noncompetitive emotion (Van de Ven et al., 2011a) that elicits even more positive thoughts about the other person (or group) than benign envy (Crusius & Lange, 2014; Van de Ven et al., 2009). Furthermore, although authentic pride was rated as more likable than hubristic pride (Study 3.4), its likability was only slightly above the midpoint of the scale. Therefore, it could be that authentic pride elicits medium warmth and high competence (for the existence of such clusters see for instance Eckes, 2002). Thus, benign envy could be a response located between admiration and malicious envy in the stereotype content model.

An important implication of the social-functional relation of envy and pride on the group level concerns competitions and conflicts between countries. Countries differ, for instance, in their status when it comes to wealth, economic opportunities, or technological achievements. In addition, many countries explicitly encourage their members to feel national pride and such feelings are often publicly expressed via the media or in direct encounters of political leaders. Might such pride displays in uneven status differences cause envy and thereby explain the escalation of conflicts? We believe that this may be true given that hubristic and authentic pride seem to map onto the distinction between patriotism and nationalism. Patriotism is fostered by temporal comparisons about one's own group (Mummendey, Klink, & Brown, 2001) implying outcome variability and attributions to effort. In contrast, nationalism is a positive evaluation of one's own country derived from downward comparisons to other countries (Mummendey et al., 2001) and it is associated with the view that these should be dominated (Kosterman & Feshbach, 1989). There may be some truth in Pope Francis' assessment that „All wars begin in the human heart—a heart that is jealous and bitter [...]" (Glatz, 2014). Nevertheless, the current framework suggests that national pride and envy may also motivate benign collective action, such as when one country serves as a role model for effort directed upward.

A social approach to envy is also important as it may serve as a basis for research on interpersonal emotion regulation. So far, little is known about how people regulate envy. Given that envy is elicited in a social contexts and fueled by pride-displaying individuals, a primary way to alter envious responses should be to engage in interpersonal emotion regulation (Niven, Totterdell, & Holman, 2009; Zaki & Williams, 2013). The superior person could adapt to the envious competitor by inhibiting or changing any emotional display upon success. This would constitute an effect of an envy expression (or the fear of envy) on pride.

The need for such regulatory action should be especially high when people feel distress about being the target of a threatening upward comparison (Exline & Lobel, 1999). Specifically, pride expressions should be particularly likely inhibited when the person cares about others, feels that others could be hurt by the expression, or when competing individuals are from the ingroup (Van Osch, 2012). In light of the current findings, this inhibition may be adaptive in such situations. Pride should increase status in the eye of others. Nevertheless, the

expression of pride may elicit envy in observers and may thereby undermine higher status in the longrun. Similarly, other research has revealed that the maliciously envied person is more prosocial toward the envier (Van de Ven, Zeelenberg, & Pieters, 2010), presumably to soothe the situation. However, this is not to say that being envied is uniformly negative. Quite the contrary, people sometimes also enjoy that others desire their advantages (Rodriguez Mosquera, Parrott, & Hurtado de Mendoza, 2010), as this might strengthen their belief in their qualities. All these behaviors eventually assure status, either by protecting the self from being pulled down or by basking in the coveting of others. Future research could investigate such social effects and its boundary conditions in the regulation of envy by the expression or inhibition of pride.

A strength of the present results is that we elicited envy in situ and also measured actual behavioral consequences of envy (for a similar methodological approach see also Crusius & Mussweiler, 2012; Van de Ven et al., 2011a). Unfortunately, it is difficult to elicit envy in the lab as one needs confederates and comparison domains which are of high personal relevance to all participants. In addition, envy is not easily admitted to others (Smith & Kim, 2007) and might therefore be difficult to detect even if present. One way to counter this can be to deplete participants by taxing their cognitive capacities necessary to control their feelings (Crusius & Mussweiler, 2012). As an alternative, we suggest to include pride displays as a constant when eliciting envy in the lab. Such a display is believable, ecologically valid (see Study 3.1), and strengthens envy (Studies 3.2 to 3.6) which might produce enough variance for the effect under investigation.

The present findings also contribute in various ways to recent research on pride. For example, pride displaying individuals' behavior is copied more often than behavior of individuals who express happiness, shame, or are emotionally neutral (Martens & Tracy, 2012). Our framework suggests that this effect is mediated via benign envy. This fits the finding that the behavior was copied only when participants could earn a financial reward for success (Martens & Tracy, 2012). Thus, they were probably benignly envious of the money potentially earned by the pride displaying individual. In this line of research, however, pride displays were not presented together with contextual knowledge regarding attributions for success. If the person would have expressed hubristic pride, we would predict that malicious envy could lead to even less copying as enviers would try to distance themselves from the disliked, dominant individual.

In addition, our results also contribute to the emerging conclusion that bodily displays can convey pride in diverse ways. Specifically, sometimes pride displays are ambiguous with respect to their potential to convey authentic or hubristic pride (Tracy & Robins, 2007b), yet other displays allow to distinguish them (Nelson & Russell, 2014). We showed that authentic and hubristic pride can be manipulated in videos of the face and the upper body (Study 3.3). Furthermore we confirm, that the same can be achieved with an ambiguous pride display

accompanied by attribution information (Studies 3.4 and 3.5). Especially the videos in Study 3.3 are valuable as they circumvent the objection that any manipulation of the pride forms is based on the combination of visual and verbal information (see discussion of Study 3.4). As we used a combination of bodily cues potentially associated with authentic and hubristic pride, future research should systematically investigate which of them are sufficient to foster the perception of the respective emotion.

The EASI model proposes that the effects of one person's emotion display on observer's behavior mediated via affective and inferential pathways are moderated by social-contextual factors and observers' information processing (Van Kleef, 2009; Van Kleef et al., 2011; see Keltner & Haidt, 1999 for a similar conceptualization). The research presented here is silent with regard to these moderators. However, we would predict that they play an important role that could be investigated in future research. In particular cases, these moderators could even reverse the distinct links between authentic and hubristic pride with benign and malicious envy. In the present research, affective and inferential pathways had additive effects in explaining the relation of envy and pride (see Study 3.4). Therefore, even if one pathway contradicts the effect of the other pathway, the specific pride form may still spur the respective envy form. However, the moderators predicted by the EASI model might change the weighting of the paths in predicting the response. Then, the situation can change entirely.

Two examples might help to illustrate this point. First, if the inferior person dislikes the superior person, authentic pride might foster malicious envy as long as the inferior person's behavior is mostly determined by the affective pathway. The latter may be possible, for instance, if the emotion display of the superior person is seen as inappropriate such as when the inferior person has a high need for social harmony (Van Kleef et al., 2011). Second, if the inferior person perceives the superior person's hubristic pride display as intentional or even humorous, this could decrease dominance perceptions or even increase prestige perceptions. This should spur benign envy as long as the inferior person's behavior is mostly determined by the inferential pathway. The latter may be possible, for instance, when the individual has a higher need for cognition or when the individual is held accountable (Van Kleef et al., 2011).

An interesting application of the aforementioned dynamics occurs in the case of rivalry. Rivalry has been shown to increase motivation and performance (e.g., Kilduff, 2014). We think that such effects may be partly driven by benign envy. By definition, rivals compete for the same personally relevant resource, for instance a gold medal among athletes. Rivals' history and repetitive competitions should also increase felt similarity. These are central contributors to envy (Smith & Kim, 2007). As long as rivals like and respect each other, the success of one rival might spur benign envy and therefore increase performance (Study 3.4). However, if the superior rival displays hubristic pride, the above results would predict that performance decreases. This occurs frequently, for instance, when competitors proudly express that they think they are the best in their profession. Furthermore, in light of the arguments presented

above, authentic pride could also decrease performance in rivals once the superior rival shows pride in an inappropriate situation. For instance, when s/he wins but the inferior rival got hurt during the competition, authentic pride displays should foster disliking. An increased need for social harmony in the inferior rival would shift the focus on the affective pathway and therefore spur malicious envy.

3.11 Conclusion

The studies presented here highlight the value of investigating how the complementary emotions pertaining to victory and defeat—pride and envy—interact. They show how the tango of two deadly sins might be capable of explaining the enormous motivational forces sparked in competitive interactions. Furthermore, the findings confirm the value of studying the social emotions of pride and envy as a social-functional unit. Such an endeavor might, ultimately, help to understand and to control competitive relationships and their multifaceted outcomes such as in the long-term rivalry of Niki Lauda and James Hunt.

4. General Discussion

4.1 Implications, Future Research Directions, and Limitations

In the current dissertation I propose a conceptualization of benign and malicious envy as social-functional emotion syndromes in which perceived personal control to reach the status-yielding standard of the envied person and appraised deservingness of the other's advantage jointly coordinate the affective, cognitive, and motivational components of the envy forms. In line with this conceptualization, I hypothesized that dispositional and situational factors that influence these appraisal dimensions would constitute determinants of benign and malicious envy. The evidence presented in Chapters 2 and 3 provides initial support for these predictions. Specifically, Chapter 2 reveals the crucial role of distinct forms of achievement motivation—hope for success and fear of failure—in shaping envy based on the reasoning that they increase or decrease perceived personal control, respectively. Hope for success relates to dispositional benign envy, preparing the envier to deal with the envied person's status-yielding standard by pursuing an approach goal. In contrast, fear of failure relates to dispositional malicious envy, preparing the envier to deal with the envied person's status-yielding standard by pursuing an avoidance goal. In line with the model of the elicitation of envy, achievement motivation, via the link to personal control, differentiates the motivational components of benign and malicious envy. Furthermore, Chapter 3 demonstrates how distinct pride displays of the envied person—authentic and hubristic pride—modulate envy based on the reasoning that the conveyed liking and status information increase or decrease appraised deservingness and perceived personal control, respectively. Authentic pride is likable and conveys status as prestige, fostering benignly envious motivational inclinations and behavior. Hubristic pride is less likable and conveys status as dominance, fostering maliciously envious motivational inclinations and behavior. In line with the model of the elicitation of envy, pride displays, via the links to personal control and deservingness, differentiate the affective and motivational components of benign and malicious envy. The cognitive component was not measured. Thus, the overarching evidence supports the value of conceptualizing benign and malicious envy as distinct social-functional emotion syndromes. In the following, I will elaborate on this conclusion, offer avenues for future research, and point out limitations.

The findings and their underlying conceptualization offer important insights into the nature of envy and allow to make new predictions about envy and its elicitation. First, they contribute to the ongoing debate on what envy actually is. Some scholars argue that envy and its diverse outcomes are best conceptualized as a unitary emotion in which frustration is the driving force of emotional responding (Cohen-Charash & Larson, in press; Tai, Narayanan, & McAllister, 2012). I agree with the general proposition that envy stems from a frustrating upward comparison. In my model of the elicitation of envy, this is reflected in the general effect of comparison concern on envy (see Figure 1.1). Moreover, the unitary emotion view predicts that frustration

triggers both, self-improvement and harming intentions, contradicting the current approach. Researchers advocating this view mainly contend that the benign-malicious conceptualization

> shares one important limitation with traditional envy research: the coupling of envy's substance with its consequences. That is, malicious envy is linked primarily to negative outcomes, and benign envy is associated exclusively with positive outcomes. Furthermore, this approach fails to explain, for any given situation, why one form of envy and its set of action tendencies is more likely to determine behavior than another. Finally, it says little about either the psychological processes linking envy with behavioral outcomes or the factors moderating these relationships. (Tai et al., 2012, p. 109)

In order to predict the diverse constructive and destructive consequences of envy, Tai and colleagues incorporate a multitude of different moderators into their model of the elicitation of envy. Furthermore, Cohen-Charash and Larson (in press) state that the confounding of envy with its outcomes is also reflected in widely used measures of benign and malicious envy, turning behavioral effects related to both envy forms into tautological inferences. Finally, they reason that this tautology applies a value judgment to envy as being either good or bad.

The current conceptualization of benign and malicious envy as social-functional emotion syndromes addresses these limitations and, complementarily, the evidence supports a categorical view on the two envy forms. Most importantly, the emotion syndrome approach defines both envy forms not solely by their outcomes but by affective, cognitive, and motivational components coordinated by appraisals of personal control and deservingness and makes clear predictions when exactly the frustration following an upward comparison modulates envy either toward its benign or malicious manifestation. To reiterate, when the envier perceives high personal control to reach the status-yielding standard of the envied person and appraises the advantage as deserved, benign envy is elicited (Van de Ven, Zeelenberg, & Pieters, 2011a). The consequences entail admiration for the envied person, attentional focus on means to reach the upward goal, and motivated striving for self-improvement (Chapters 2 and 3; Crusius & Lange, 2014; Van de Ven, Zeelenberg, & Pieters, 2009, 2011b). In contrast, when the envier perceives low personal control to reach the status-yielding standard of the envied person and appraises the advantage as undeserved, malicious envy is elicited (Van de Ven et al., 2011a). The consequences entail resentment for the envied person, attentional focus on the other, and motivated striving to harm (Chapters 3; Crusius & Lange, 2014; Duffy, Scott, Shaw, Tepper, & Aquino, 2012; Van de Ven et al., 2009). In this conceptualization, motivational outcomes are only one component of envy and not a confound of the emotional experience and its outcomes, dovetailing with approaches that define action-readiness (Frijda, 2007) or motivational goals (Roseman, Wiest, & Swartz, 1994) as only one core element of emotions.

Moreover, the current conceptualization has further advantages and addresses the other limitations mentioned by the unitary emotion view. First, it becomes much more parsimonious to predict that variables affecting appraisals of personal control and deservingness modulate envy toward its benign or malicious form than incorporating a multitude of different moderators directly into the model. For instance, hope for success and fear of failure probably modulate envy as they relate to appraisals of personal control and authentic and hubristic pride probably modulate envy as they relate to appraisals of personal control and deservingness. Yet, despite the fact that achievement motivation and pride modulate envy, it is unnecessary to incorporate them into a model of the elicitation of envy as this would be vastly restrictive. Second, envy was measured via its affective and motivational components as well as actual behavior. The appraisal dimensions should be responsible in coordinating the various components of benign and malicious envy. Thus, as certain dispositional and situational variables relate to the components of envy via appraisal dimensions and not directly, the model circumvents the objections that these findings are tautological or evaluative. Quite the contrary, they reveal how envy provides the individual with the social-functional basis to adaptively deal with frustrating upward comparison and how certain dispositional and situational variables determine which pathway of envious responding is adaptive in a given situation. For instance, it is neither tautological to show that different pride displays affect the envier's persistence on an achievement task or the set difficulty assigned to the competitor (Chapter 3) nor is it inherently good or bad to set higher goals for a marathon or avoid a specific time goal (Chapter 2). I argue that these effects are best understood as social-functional responses given situational (pride's conveyed liking and status) or dispositional (achievement motivation) determinants relating to different appraisal dimensions of benign and malicious envy.

In addition, other recent evidence also speaks to the distinctiveness of benign and malicious envy. Falcon (2015) applied taxometric analysis (a method that statistically differentiates whether the latent structure of a construct is best conceptualized as categorical or dimensional) to demonstrate that envy situations that were sampled over the course of two weeks fit a categorical structure, mapping onto the distinction of benign and malicious envy. Various items related to the affective and motivational components of both forms distinguished between them. This also dovetails with evidence that in many languages such as German or Dutch there are two words to refer to envy which are linked to either the benign or malicious manifestation (Crusius & Lange, 2014; Van de Ven et al., 2009). In sum, there is growing support for a conceptualization of envy as having two forms.

Are there any opportunities to falsify my model of the elicitation of envy? I think there are. The current conceptualization is based on the reasoning that appraisals of personal control and deservingness coordinate the diverse affective, cognitive, and motivational components of benign and malicious envy. One can falsify this model in at least three ways. First, proponents of the unitary view argue that the previous conceptualization of envy proper (based mainly

on malicious envy) sufficed to predict envy-driven consequences categorized as malicious *and* benign (for the argument see Cohen-Charash & Larson, in press; for ostensible evidence see for instance Cohen-Charash, 2009; Schaubroeck & Lam, 2004). The conceptualization of envy proper described envy as an emotion triggered by feelings of reduced personal control (Vecchio, 2000) and appraisals of undeservingness (Smith, Parrott, Ozer, & Moniz, 1994). Therefore, lack of control and undeservingness should also be predictors of envy's benign consequences. This would falsify the current conceptualization (for first attempts into this direction see Cohen-Charash, 2015). However, as correlational (Lange, Crusius, & Hagemeyer, 2015) and experimental evidence (Van de Ven et al., 2011a) demonstrates that high personal control and deservingness relate to benign envy and lack of personal control and undeservingness relate to malicious envy, I would predict that these efforts may not be fruitful.

Second, unequivocal empirical evidence for the specific effects of appraisals of personal control and deservingness on distinct components of benign and malicious envy is still lacking. In the model, I propose that, for benign envy, deservingness should relate to the affective component (admiration), whereas personal control should relate to the cognitive (means focus) and motivational (improvement motivation) components. For malicious envy, deservingness should relate to the affective (resentment) and cognitive (person focus) components, whereas personal control should relate to the motivational component (harming intentions). As outlined in Chapter 1, some corollaries of this predicted mapping were supported in recent research (stronger effects of personal control and deservingness on benign and malicious envy, respectively, and a negative correlation of state benign and malicious envy). Furthermore, Chapter 2 shows that a dispositional variable—achievement motivation—that is theoretically related to personal control correlates with the motivational components of the envy forms. Moreover, Chapter 3 demonstrates that a situational variable—pride display—that theoretically affects observers' personal control and deservingness is associated with the affective and motivational components of the envy forms. Yet, competing hypotheses are not pitted directly against each other. A strong test of these predictions would be to manipulate envy, measure appraisals of personal control and deservingness as well as the affective, cognitive, and motivational components of benign and malicious envy, and test their relationships. Alternatively, it is possible to measure or manipulate dispositional and situational variables that distinctively affect either personal control or deservingness appraisals and then link them to the respective components. For instance, scales measuring the belief in a just world (Dalbert, Montada, & Schmitt, 1987) should relate to deservingness appraisals and therefore especially to the affective component of benign envy and the affective and cognitive components of malicious envy. Varying the mutability of the person's hierarchy should change perceptions of personal control (Hays & Bendersky, 2015) and therefore especially influence the cognitive and motivational components of benign envy and the motivational component of malicious envy. Disconfirming evidence would falsify the model. However, if one could refine the predictions, the general

approach to conceptualize benign and malicious envy as emotion syndromes may still be valid.

Third, there is limited evidence with respect to the coordination of the affective, cognitive, and motivational components of benign and malicious envy. The emotion syndrome view predicts that the components are correlated with each other (as is for instance the case in surprise; Reisenzein, 2000). For the envy forms, I find high internal reliability for measures covering the respective affective and motivational components (Chapters 2 and 3). Furthermore, feelings of admiration foster emulation (Schindler, Paech, & Löwenbrück, 2015) and feelings of resentment are linked to hostile reactions (Leach, 2008). So, there is supportive evidence for a correlation of the affective and motivational components of benign and malicious envy. Moreover, recent research supports that there is a higher correlation of the components within benign and malicious envy than between the envy forms (Falcon, 2015). However, I did not measure the cognitive components. Therefore, I cannot present evidence directly linking the affective and motivational components to attentional shifts. Do feelings of admiration and self-improvement tendencies relate to an attentional focus on means to reach the upward goal? Do feelings of resentment and harming intentions relate to an attentional focus on the other person? Regarding the former question, admiration-driven emulation and self-improvement tendencies represent specific goals. As goals are cognitively attached to their corresponding means (for a review see Kruglanski et al., 2012) these might get activated alongside benign envy's affective and motivational component. Regarding the latter question, Smith (2000) and Van de Ven and colleagues (2009) argued that resentment relates to a shift of personal responsibility to the other person which I interpret as an attentional process. This suggests a correlation of the affective and cognitive components of malicious envy. Furthermore, if the harming intentions are socially functional, they should be focused exclusively on the envied person and not broaden to all present individuals, implying a correlation of the motivational and cognitive components of malicious envy. Nevertheless, the correlation of all three components is a crucial test of the emotion syndrome approach. In principle, future research should measure all components simultaneously and assess their relationships. Disconfirming evidence would speak against the current conceptualization. Specifically, the most important advantage of my model of the elicitation of envy lies in its parsimony. If the components are uncorrelated, it will be necessary to include separate moderators for each of them (as is done by Tai et al., 2012), eventually decreasing parsimony.

The prediction of correlated components in emotion syndromes becomes even more complex as these approaches usually include two more components that I neglected so far: physiological and expressive changes (Roseman, 2013). Note that the existence of all components is not a necessary condition for a mental state to be an emotion as several emotions lack one or more components (such as the facial expression; see for instance Ekman, 1993). Still, the neglect of these components in my model suggests their absence. In fact, there is no research with respect to envy dedicated to these components. Nevertheless, it is possible to derive

certain hypotheses. In what follows, I will discuss my predictions.

Whether physiological changes are systematically associated with specific emotions is still hotly debated. Some scholars argue that emotions are essentialized categories (Lindquist, Gendron, Oosterwijk, & Barrett, 2013) that are constructed in situ (Barrett, 2014) and shaped by the interpersonal context (Boiger & Mesquita, 2012). Different components of affective states are then elicited and aligned by the process of labeling diverse sensations with distinct emotion words (Lindquist, Satpute, & Gendron, 2015). To put it differently, constructionist views propose, for instance, that a negative, arousing state evolves into the emotion of *fear* via the process of labeling it which then fosters corresponding coordinated fear behavior and physiological changes (see for instance Lindquist & Barrett, 2008). If the same state is labeled *anger*, then different reactions will occur. Following this approach, emotions are not hard-wired, innate entities and therefore, physiological changes cannot differentiate between manipulated emotional states. Indeed, the evidence for emotion-specific patterns is equivocal (for a review see Barrett, 2006). However, other scholars disagree with this conclusion and point at various limitations of previous research (Kragel & LaBar, 2013). Most notably, researchers preferably applied univariate tests comparing a set of emotions with respect to a multitude of physiological parameters. Yet, it is unlikely that single parameters individually relate to distinct emotions. Actually, when *patterns* of parameters are used to predict emotion categories, correct classifications increase significantly. As a compromise between these two extreme stances, others argue that physiological changes are more consistently related to certain dimensions underlying every emotional experience: valence and arousal (Bradley & Lang, 2000; Mauss & Robinson, 2009). In response to new stimuli, the heart rate initially decelerates, then accelerates, and finally decelerates again. Positive stimuli increase acceleration, whereas negative stimuli increase initial deceleration. Furthermore, emotional arousal leads to corresponding increases in skin conductance and stronger as well as more sustained cortical activity between 400 and 700ms after stimulus onset independent of valence. These physiological changes are interpreted as motivational inclinations of approach and avoidance (mainly driven by valence) and respective intensity of motivational striving (mainly driven by arousal) that prepare an individual to adaptively deal with an emotion-inducing situation (Bradley & Lang, 2000).

How can this be applied to envy? Chapter 2 relates benign envy to hope for success (approach orientation) and malicious envy to fear of failure (avoidance orientation). Specifically, although both envy forms are generally negative and frustrating, benignly envious individuals are probably focused more on the positively evaluated envy object and how to approach it, whereas maliciously envious individuals are probably focused more on the negatively evaluated person and how to avoid falling short of this person's standard (Crusius & Lange, 2014). Therefore, benign envy most likely also fosters some positive emotions, whereas malicious envy might be uniformly negative. Furthermore, I would argue that benign envy constitutes

a long-term strategy in which self-improvement motivation is mainly implemented once the situational prerequisites to act on the goal occur. For instance, although comparisons with competitors during training will immediately elicit self-improvement motivation in marathon runners, the strongest boost would be functional during the race. In contrast, malicious envy constitutes a short-term strategy in which the envier should instantly act on the avoidance goal to protect once self-esteem. As the intensity of immediate motivational striving is related to arousal, benign envy should relate to lower arousal than malicious envy. In sum, benign envy might entail stronger heart rate acceleration, lower initial heart rate deceleration, lower skin conductance, and lower as well as less sustained cortical positivity than malicious envy.

If future research reveals characteristic physiological patterns of the envy forms, such evidence would also contradict the constructionist approach (Barrett, 2014). In particular, this approach predicts that physiological changes are randomly distributed over different emotions and are aligned by labeling a specific affective state (Lindquist et al., 2015). As envy is only hardly admitted privately and publicly (Smith & Kim, 2007), labeling processes should be unable to explain a systematic coordination of different physiological parameters. This is an important advantage over other emotions with respect to this research question. People rarely hide their surprise or fear. Therefore, a spontaneous labeling process can always explain characteristic physiological patterns for more basic emotions (as for instance in Kragel & LaBar, 2013) and it becomes impossible to falsify the constructionist approach. This alternative explanation is absent in envy research. Thus, studying envy's physiological changes constitutes a strong test of the emotion syndrome view in general.

The second component that I neglected is the expressive component (see Roseman, 2013). Emotions are expressed and perceived via many different channels. Most centrally, emotions are expressed and perceived through facial expressions (Shariff & Tracy, 2011), postural changes (Aviezer, Trope, & Todorov, 2012a), and vocal cues (Banse & Scherer, 1996). Although, all these cues are probably integrated into a holistic percept of the person (see for instance Aviezer, Trope, & Todorov, 2012b), scholars overwhelmingly investigated these channels individually. As mentioned above, many emotions actually lack a clear expressive component (Ekman, 1993). In addition, people often experience an emotion but suppress its expression as a means to regulate it (Gross, 2015). For an envier, it might even be disadvantageous to express the emotion as admitting envy reveals low status and norm-deviating feelings (Silver & Sabini, 1978). It is therefore challenging to derive precise predictions with respect to distinct facial, postural, or vocal cues differentiating between benign and malicious envy. However, in light of the current conceptualization of envy I can derive some directions for future research.

As far as I know, there are no documented facial and postural manifestations of envy. Yet, this is not to say that enviers never display any signs in the face or body that could reveal their emotion. In general, as both envy forms relate to equal levels of frustration, they might

increase activation of an unspecific facial cue indicating negative valence—the corrugator supercilii (Larsen, Norris, & Cacioppo, 2003). Furthermore, I propose that certain facial and postural cues could help to perceive either benign or malicious envy. This proposition is based on two empirical observations. First, we recently collected evidence showing that dispositional benign and malicious envy inclinations mediated the paradoxial effects of grandiose narcissism on peer ratings (Lange et al., 2015). We theorized that benign and malicious envy could foster observable behavior which then informs the peer ratings. Second, self and peer ratings of benign and malicious envy were moderately correlated with each other especially in close relationships (Lange & Hagemeyer, 2015). This suggests that observers know how envious their close friends are.

How exactly might benign and malicious envy manifest in observable behavior? I argue that contextual information should be vital as such information often has a strong influence on emotion perception (e.g., Barrett & Kensinger, 2010). Anecdotal evidence suggests that people easily infer envy from pictures in which an advantaged person (e.g., with a nice lolly) is accompanied by a frustrated, disadvantaged person (e.g., without a nice lollipop). People also attribute certain behaviors of others to envy, for instance by stating „You are just envious“ when these others talk badly about their recent successes. This suggest that it might be feasible to infer envy based on the full contextual information—the triad of envier, envied person, and envy object. If an observer discloses their affective connections, envy could be perceived. In particular, I predict that eye movements determine whether perceivers infer benign or malicious envy. Crucially, envy is strongly linked to the eye. Already the Latin word from which envy was derived—*invidere*—means *to look upon* and in several cultures people fear the *evil eye* of their competitors (Foster, 1972), implying that observers may focus on eye movements to infer envy. As alluded to above, this anecdotal evidence also extends to attentional processes as benign envy relates to a focus on means to reach the upward goal and malicious envy to a focus on the envied person (Crusius & Lange, 2014). Collectively, this suggests that when the envier looks at or is mentally mostly concerned with the envy object, observers should infer benign envy. In contrast, when the envier looks at or is mentally mostly concerned with the envied person, observers should infer malicious envy. Thus, I predict that contextual information—the envy object and the envied person—jointly with eye movements to either of them provide observers with the necessary information to infer benign or malicious envy in enviers, respectively.

Moreover, the extant research on vocal expressions of emotions also enables future research to investigate vocal patterns for benign and malicious envy. Indeed, when vocal parameters are manipulated or measured (Banse & Scherer, 1996; Scherer & Oshinsky, 1977), observers can infer distinct emotions with comparable accuracy to inferences based on facial expressions (for a review see Scherer, 2003). As with facial and postural cues, there is no research with respect to vocal patterns of benign and malicious envy. However, there are at

least two separate lines of previous research from which one can derive (partly contradicting) predictions: the links of emotional arousal and status differences with vocal expressions. First, Bachorowski and colleagues (Bachorowski, 1999; Bachorowski & Owren, 1995) revealed that emotional arousal increases mean pitch (fundamental frequency of speech), pitch variability, and vocal amplitude. This pattern is also consistently found for a multitude of arousing emotions (Scherer, 2003). As alluded to above, I argue that benign envy is less arousing than malicious envy, speaking to lower pitch, pitch variability and vocal amplitude in the former. Research on status and vocal patterns demonstrates that highly ranked individuals speak with higher mean pitch and that perceived mean pitch leads to higher inferred rank (Ko, Sadler, & Galinsky, 2015). As I propose that malicious envy's function corresponds to a short-term strategy, it should lead to instant efforts to communicate high status to observers. In contrast, for benign envy to be functional, the envier first has to improve personal performance—a long-term strategy. Therefore, instant status communication is unlikely. Thus, malicious envy should lead to higher pitch, dovetailing with the arousal findings. In contrast to this prediction, Chapter 3 implies that malicious envy fosters the pursuit of dominance, a status form which provokes and is perceived through *decreased* pitch (Cheng, 2013). In my opinion, these opposing predictions for the effect of malicious envy on pitch (either increasing or decreasing pitch) might emerge as a result of two separate functions of emotional expressions (see Shariff & Tracy, 2011). On the one hand, emotion expressions evolved to provide benefits for the emotional person. For instance, a disgust facial expression prevents toxic chemicals to enter the body (Rozin & Fallon, 1987). On the other hand, emotion expressions also evolved as a means to communicate information to others and were therefore intentionally intensified. For instance, pride displays communicate status (Shariff & Tracy, 2009) and are often displayed in an exaggerated manner after success (Tracy & Matsumoto, 2008). For envy, differences in arousal likely relate to the first function as they constitute immediate reactions preparing the individual to deal with lower status by spurring approach or avoidance (Bradley & Lang, 2000) given dispositional (Chapter 2) and situational (Chapter 3) determinants. In contrast, when malicious envy leads to the pursuit of dominance, the communication thereof probably corresponds to the second function of emotional expressions. This could be so as the envier obviously is not dominant in an envy situation but would need to imply such an inference in others to immediately overcome the status difference. In fact, vocal cues are prone to intentional changes by individuals (Bachorowski, 1999), speaking to the likelihood of using it as a deliberate signal to observer. Future research should test the dissociation of the two functions of envy by disentangling their (un)intentional facets.

Second, aside from changes in specific vocal parameters, status also relates to broader linguistic styles. If envy is a social-functional response to status differences, with the goal to increase personal standing (either by improving own status or harming competitors' status), then these findings will allow to predict expressive components of envy. Specifically, presti-

gious individuals express higher confidence (Anderson, Brion, Moore, & Kennedy, 2012) and use a socially attractive verbal style characterized by, for instance, seeking approval, appearing self-deprecating, and being humorous (Cheng, 2013). In contrast, dominant individuals speak more frequently, contribute to conversations early on (Anderson & Kilduff, 2009), and use an intimidating verbal style characterized, for instance, by appearing overbearing, humiliating others, and forcefully pushing one's ideas (Cheng, 2013). It would be interesting to study whether the desires for prestige and dominance underlying benign and malicious envy (Chapter 3) could shape envier's linguistic styles in these directions.

Finally, I propose that the general approach underlying the current conceptualization of envy is also a vital starting point for other emotional states. As repeatedly alluded to above, conceptualizing an emotion as a syndrome in which appraisal dimensions coordinate various components is very parsimonious. Because several determinants of the appraisal dimensions constitute elicitors of the emotion, the incorporation of various specific determinants becomes unnecessary. Applying this framework, researchers will be able to explain seemingly distinct outcomes of emotions as the result of coordinated, functional strategies driven by general cognition. An emotion for which such conceptual work might be fruitful is nostalgia. Nostalgia is a bittersweet emotion in which individuals long for positive aspects of their past (for a review see Sedikides et al., 2015). Research attests that it is triggered by relatively innocuous stimuli (e.g., songs, smells) or distressing situations (e.g., social exclusion, loneliness, existential terror) and serves various seemingly unrelated functions. On the affective side, nostalgia increases the positivity of the self-concept and the personal future. On the cognitive side, nostalgia fosters perceived meaning in life, felt social connectedness, and empathic skills. On the motivational side, nostalgia spurs prosocial action tendencies and general approach orientation. Sedikides and colleagues (2015) proposed a model in which threatening situations of various kinds simultaneously evoke negative effects and nostalgia. The latter then dampens the former—a striving for homeostasis. Apparently, the many functions of nostalgia are distributed over a broad range of positive outcomes in a rather unstructured manner. To address this limitation, Baldwin, Biernat, and Landau (2015) recently theorized and demonstrated that nostalgia can increase access to the intrinsic self—an authentic self that describes who one truly is—which unifies nostalgia's diverse consequences. Complementing these efforts, I suggest that research on nostalgia would also benefit from a theory-driven conceptualization of its elicitation. Which appraisal dimensions mediate the elicitation of nostalgia and might therefore trigger access to the intrinsic self and coordinate the resulting affective, cognitive, and motivational components? Applying the approach detailed in this dissertation may structure the complex field of nostalgia research and open up new avenues for future research.

In comparison to the most relevant control condition—happiness—I predict that nostalgia is elicited by appraisals of low novelty, low intrinsic pleasantness, high goal significance (urgency of goal implementation), and low compatibility with internal standards (based on

the appraisal theory outlined in Ellsworth & Scherer, 2003). Furthermore, it should be as high as happiness on adjustment (emotion-focused coping potential). Novelty appraisals relate to new and unexpected environmental stimuli that deserve further attention. As nostalgia is elicited in response to familiar stimuli from the past (e.g., songs from one's childhood) and fulfills a homeostatic function for ongoing threatening conditions (e.g., death anxiety, meaninglessness)—implying distraction from threats and not increased attention to them—it should be linked to low novelty. Furthermore, the bittersweet nature of nostalgia and its relation to existential or social threat should lower its intrinsic pleasantness and increase the urgency to act. When nostalgia then buffers the threat, the person must have perceived the situation as adjustable via emotion-focused coping in order to eventually reach the personal standard of the intrinsic self. These different appraisal dimension probably relate to different outcomes of nostalgia (as described in Baldwin et al., 2015; Sedikides et al., 2015). For instance, the adjustment appraisal might correlate with the affective and cognitive components. When the nostalgic person experiences high emotion-focused coping potential, this might trigger strategies to mitigate the threatening condition such as increases in perceived self-concept positivity and meaning in life. Furthermore, appraisals of low compatibility with internal standards might activate efforts to reestablish the intrinsic self and therefore trigger approach motivation. This would imply that a nostalgic individual compares the current self to the authentic past self, a discrepancy that activates assimilative action. In fact, recent evidence supports that addicts' nostalgic feelings towards their pre-addicted selfs increases behavioral change (Kim & Wohl, 2015). Finally, the appraisal of high urgency could link nostalgia to an inclination of persistent motivational striving, a hypothesis still awaiting empirical testing. Thus, applying an emotion syndrome approach as conceptualized here for envy to nostalgia might structure and extend this research domain.

4.2 Conclusion

Envy's stigma of being a vicious sin is about to change. Instead, the current evidence supports a conceptualization of envy as a social-functional emotion syndrome. Consequently, a new picture of envy emerges that points at adaptive benefits of the most joyless of all sins. Accordingly, envy is not felt by ill-minded individuals and fostered by unjust situational characteristics but systematically determined by dispositional and situational moderators that affect appraisals of personal control and deservingness, linking envy to diverse functional affective, cognitive, and motivational outcomes. This approach addresses various limitations of previous conceptualizations of envy, allows to derive a multitude of predictions concerning other components of envious responding, and informs emotion research in general. Thus, Henry Fielding and William Petty were misguided, great souls can feel envy and this might not be burdensome for the world.

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6. Appendix

6.1 Appendix A

Confirmatory factor analysis.

Participants. We collapsed five independent samples including the samples from Study 2.2 (Sample 4) and Study 2.3 (Sample 5) in which we used the BeMaS. Details regarding the origins of the samples, their composition regarding age and gender as well as details on the reliability of the dispositional benign and malicious subscales can be found in Table A1.

Table A1. Demographic Data of Participants of the Confirmatory Factor Analysis and Descriptive Statistics of the BeMaS.

					Benign Envy[a]		Malicious Envy[a]	
	Sample	N	M_{age}	n(male)	α	$M\,(SD)$	α	$M\,(SD)$
1	MTurk	218	35.43	79	.88	3.96 (1.10)	.88	2.50 (1.12)
2	German Students	134	26.16	43	.85	3.81 (0.98)	.84	2.40 (0.93)
3	MTurk	195	36.23	80	.90	4.00 (1.18)	.88	2.27 (1.09)
4	MTurk	194	31.18	129	.89	4.12 (1.10)	.91	2.53 (1.18)
5	MTurk	192	31.60	121	.84	4.12 (0.92)	.90	2.54 (1.13)

[a] Participants responded on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*).

Materials and procedure. In each sample, participants filled in the BeMaS next to other scales unrelated to the current analysis.

Results and discussion. A model with two correlated factors—dispositional benign and malicious envy—showed good fit to the data, $\chi^2(34) = 189.89$, $p < .001$, $GFI = .96, CFI = .97, AGFI = .93$, and $RMSEA = .07$ CI95%$[.06; .08]$. The standardized regression weights for each item were $> .63$. Both factors were correlated, $r(933) = .15$, $p < .001$. Importantly, an alternative model with one trait envy factor on which all items loaded produced very poor fit, $\chi^2(35) = 2662.85$, $p < .001$, $GFI = .55$, $CFI = .47$, $AGFI = .29$, and $RMSEA = .28$ CI95%$[.27; .29]$. This corroborates the structural stability of the BeMaS especially in comparison to a conception of envy as a unitary factor.

Temporal stability.

Participants. The temporal stability of the BeMaS was tested with Sample 3 from the confirmatory factor analysis (see Table A1). The final sample included 174 participants amounting to a response rate of 89%.

Materials and procedure. Three to four weeks after participants had completed the scale, we invited them to complete the BeMaS again.

Results and discussion. The temporal stabilities of the dispositional benign envy subscale, $r(174) = .67$, $p < .001$, and the dispositional malicious envy subscale, $r(174) = .66$, $p < .001$, were both acceptable. This corroborates the quality of the BeMaS and speaks to the dispositional nature of benign and malicious envy.

Structural equation model Study 2.4.

We tested a complete model with the data of Study 2.4. In the model, dispositional benign and malicious envy served as parallel predictor variables. We specified indirect effects of the envy forms via race goal to race speed. Variance in race goal and race speed already explained by age, gender, and race type were controlled. In addition, the envy forms and the covariates were all allowed to correlate. The model showed excellent fit, $\chi^2(2) = 1.15$, $p = .56$, $GFI = 1.00$, $AGFI = 0.99$, $CFI = 1.00$, $RMSEA = .000$ CI95%[.000; .088] (see Figure A1). The indirect effect for dispositional benign envy via race goal on race speed with 5000 bootstrap re-samples and bias-corrected confidence interval (Preacher & Hayes, 2008) was significant, $ab = 0.16$, CI95%$[0.04; 0.28]$. The excellent model fit implies that this constitutes a full mediation. Also as expected, the indirect effect of dispositional malicious envy was not significant, $ab = -0.09$, CI95%$[-0.27; 0.09]$.

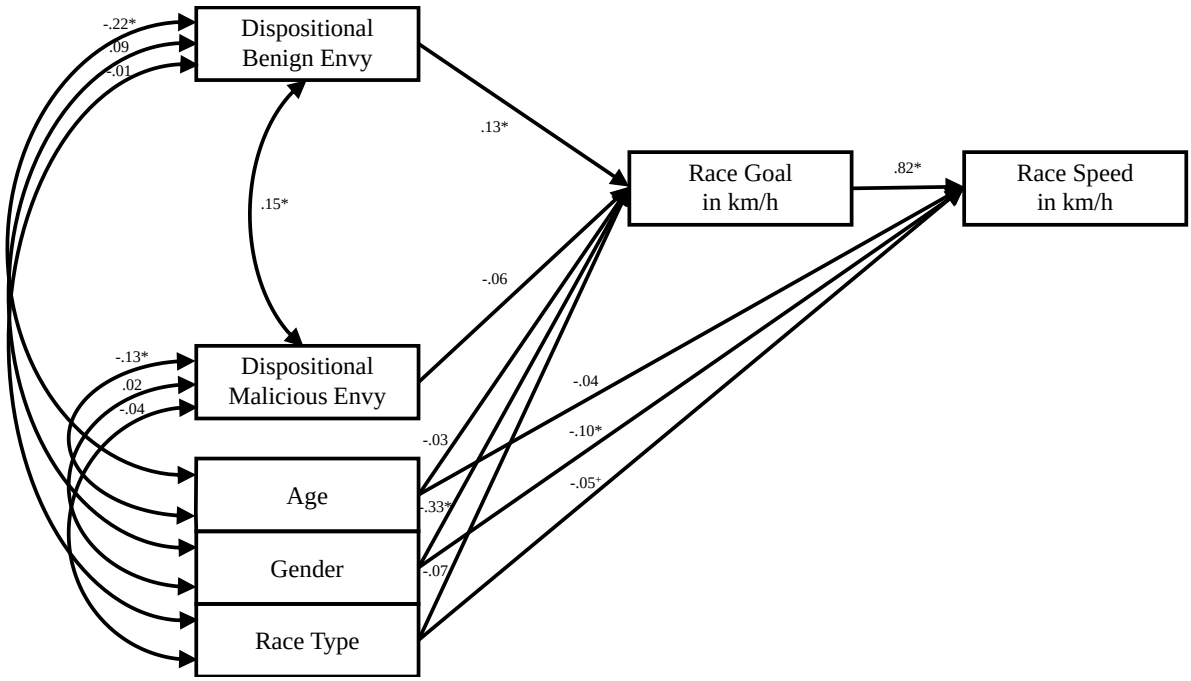

Figure A1. Indirect effects of dispositional benign and malicious envy via race goal on race speed controlling for age, gender, and race type. Gender was coded 0 — Male, 1 — Female. Race Type was coded 0 — Half Marathon, 1 — Full Marathon. $^{*}p < .05$. $^{+}p < .10$.

6.2 Appendix B

Table B1. Items Measuring Benign Envy, Malicious Envy, Intensity of Negative Affect, and Deservingness in Study 3.1.

Scale	Items
Benign Envy	I tried harder to also obtain X.
	I felt inspired to also obtain X.
	I wished to also have X.
	I desired X.
	I admired the Person.
	I liked the Person.
	I wanted to be like the Person.
Malicious Envy	I felt coldness towards the Person.
	I wished that the Person would fail at something.
	I would have liked to damage X.
	I would have liked to hurt the Person.
	I wished that the Person would no longer have X.
	I would have liked to take X away from the Person.
	I had negative thoughts about the Person.
Intensity of Negative Affect	It hurt not to have X.
	That the Person had X and I lacked it elicited strong negative feelings in me.
	It felt frustrating that I did not have X.
Deservingness	The Person didn't deserve X. (r)
	It felt undeserved that the Person had X and I hadn't. (r)
	That the Person was in possession of X felt unfair. (r)

Note. Person refers to the envied person. X refers to the envied person's advantage. Items marked with an r are reversed coded. Answers were given on scales from 1 (*does not apply at all*) to 7 (*applies very much*).

Table B2. Correlations of all Measures in Study 3.1.

	1	2	3	4	5	6	7
1 Benign Envy[a]	—						
2 Malicious Envy[a]	-.29*	—					
3 Intensity of Negative Affect[a]	.25*	.36*	—				
4 Deservingness[a]	.33*	-.71*	-.40*	—			
5 Pride Occurrence[b]	-.03	-.07	-.09	.05	—		
6 Authentic Pride[c]	.14	-.08	.19*	.09	-.18*	—	
7 Hubristic Pride[c]	-.23*	.63*	.22*	-.50*	-.19*	.08	—

Note. $N = 122$. Spearman Correlations.

[a] Answers were given on a scale from 1 (*does not apply at all*) to 7 (*applies very much*).

[b] Did you notice or hear of any occurrence of pride on the side of the person you envied in relation to his/her advantage? 1 — yes, 2 — no

[c] Answers were given on a scale from 1 (*not at all*) to 5 (*extremely*).

* $p < .05$

Table B3. Correlations of all Measures in Study 3.2.

	1	2	3
1 General Envy	—		
2 Benign Envy	.27*	—	
3 Malicious Envy	.44*	.18*	—

Note. $N = 120$. Spearman Correlations.

Answers were given on a scale from 1 (*not at all*) to 7 (*very much*).

* $p < .05$

Table B4. Items Measuring Benign Envy, Malicious Envy, and Intensity of Negative Affect in Study 3.3.

Scale	Items
Benign Envy	Ich strenge mich mehr an, um in der nächsten Klausur ebenfalls eine gute Note zu bekommen. (I try harder to also obtain a good grade in the next exam.)
	Tina/Tim inspiriert mich dazu, in der nächsten Klausur ebenfalls eine gute Note zu bekommen. (Tina/Tim inspires me to also obtain a good grade in the next exam.)
	Tina/Tim motiviert mich dazu ihr nachzueifern. (Tina/Tim motivates me to emulate her/him.)
	Tinas/Tims Erfolg ermutigt mich. (Tina's/Tim's success encourages me.)
	Ich möchte wie Tina/Tim sein. (I want to be like Tina/Tim.)
Malicious Envy	Ich wünsche mir, dass Tina/Tim bei einer anderen Sache scheitert. (I wish that Tina/Tim would fail at something.)
	Ich würde gerne über Tina/Tim lästern. (I would like to gossip about Tina/Tim.)
	Ich würde Tina/Tim gerne weh tun. (I would like to hurt Tina/Tim.)
	Ich wünsche mir, dass Tina/Tim die gute Note nicht mehr hat. (I wish that Tina/Tim would no longer have a good grade.)
	Ich würde Tina/Tim die gute Note gerne wegnehmen. (I would like to take the good grade away from Tina/Tim.)
Intensity of Negative Affect	Es tut weh nicht so eine gute Note zu haben. (It hurts not to have a good grade.)
	Dass Tina/Tim so eine gute Note hat und ich nicht verursacht starke negative Gefühle in mir. (That Hillary/Joe has a good grade and I lack it, elicits strong negative feelings in me.)
	Es ist frustrierend, dass ich nicht so eine gute Note habe. (It feels frustrating that I do not have a good grade.)

Note. Original items were in German. In parentheses are English translations. Answers were given on scales from 1 (*does not apply at all*) to 7 (*applies very much*).

Table B5. Correlations of all Measures in Study 3.3.

	1	2	3
1 Benign Envy	—		
2 Malicious Envy	-.15*	—	
3 Intensity of Negative Affect	.14*	.44*	—

Note. $N = 301$.

Answers were given on a scale from 1 (*not at all*) to 7 (*very much*).

* $p < .05$

Table B6. Items Measuring Benign Envy, Malicious Envy, and Intensity of Negative Affect in Study 3.4.

Scale	Items
Benign Envy	I try harder to also obtain a good grade in the next exam.
	Hillary/Joe inspires me to also obtain a good grade in the next exam.
	I wish to also have a good grade.
	Hillary's/Joe's success encourages me.
	I want to be like Hillary/Joe.
Malicious Envy	I wish that Hillary/Joe would fail at something.
	I would like to gossip about Hillary/Joe.
	I would like to hurt Hillary/Joe.
	I wish that Hillary/Joe would no longer have a good grade.
	I would like to take the good grade away from Hillary/Joe.
Intensity of Negative Affect	It hurts not to have a good grade.
	That Hillary/Joe has a good grade and I lack it, elicits strong negative feelings in me.
	It feels frustrating that I do not have a good grade.

Note. Answers were given on scales from 1 (*does not apply at all*) to 7 (*applies very much*).

Table B7. Correlations of all Measures in Study 3.4.

	1	2	3	4	5	6
1 Benign Envy	—					
2 Malicious Envy	-.32*	—				
3 Liking	.50*	-.51*	—			
4 Prestige	.61*	-.33*	.51*	—		
5 Dominance	-.35*	.47*	-.57*	-.38*	—	
6 Intensity of Negative Affect	.13*	.38*	-.35*	.03	.26*	—

Note. $N = 397$.

Answers were given on scales from 1 to 7.

* $p < .05$

Items measuring envy in Study 3.5. Items marked with an r are reversed coded. Answers were given on a scale from 1 (*does not apply at all*) to 7 (*applies very much*).

1) Hillary/Joe inspires me to also obtain a good grade in the next exam.
2) I desire a good grade.
3) I wish that Hillary/Joe would fail at something. (r)
4) I want to be like Hillary/Joe.
5) I wish that Hillary/Joe would no longer have a good grade. (r)
6) I would like to take the good grade away from Hillary/Joe. (r)
7) Hillary/Joe doesn't deserve a good grade. (r)

Table B8. Correlations of Central Measures in Study 3.6.

	1	2	3	4	5
1 Authentic Pride Alex14[a]	—				
2 Hubristic Pride Alex 14[a]	-.19*	—			
3 Envious Self[a]	.06	.07	—		
4 Set Difficulty[b]	-.22*	.41*	.16*	—	
5 Persistence[c]	.10	.09	.01	-.04	—

Note. $N = 187$. Spearman Correlations. One missing value for Envious Self.

[a] Answers were given on a scale from 1 (*does not apply at all*) to 7 (*applies very much*).

[b] Values vary from 8 (*easy*) to 24 (*very difficulty*).

[c] Measured in seconds. Values vary from 0 to 420.

$^{*}p < .05$