How Pride Influences Nonconscious Mimicry

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Abstract of Dissertation

Our emotional experiences affect our behavior, sometimes even outside of awareness. Overall, emotions can be adaptive and functional in motivating specific actions (such as fear motivating fight-or-flight). In a series of studies, I examine pride’s effect on nonverbal behavior and working relationships. Pride—as a positive emotion arising due to one’s achievements—was manipulated in the lab using a positive-feedback paradigm. I hypothesize that pride might decrease nonconscious mimicry—an affiliative nonverbal behavior—but improve evaluations of working partnerships. Study 1 compares pride against a neutral condition and a general positive affect condition, showing that pride uniquely decreases mimicry behavior, even as general positive affect increases it. In Studies 2 and 3, I test implicit power as a mechanism by which pride might be affecting nonverbal behavior, looking at power as both a mediator (Study 2) and a manipulated variable, using high- or low-power role assignments (Study 3). Findings suggest that pride increases feelings of power, and when power is taken away, so is pride’s effect on nonverbal behavior. To better understand the relationship between power and pride, Studies 4 and 5 investigate how high- and low-power role assignments directly affect implicit power. Results show no difference in implicit power for high- and low-power neutral participants (Study 4), but also show no difference for high- and low-power pride participants, contrary to hypotheses (Study 5). Study 5 also fails to replicate the mimicry findings of Study 3—with no difference between the mimicry behavior of high-power and low-power individuals. In terms of working relationships, pride seems to motivate positive behavior, and ultimately serves to strengthen working partnerships. Taken together, these studies suggest that pride does decrease affiliative nonverbal behavior, but that power may or may not be the mechanism behind this
effect. Future studies should aim to investigate power using a stronger manipulation, and should also examine alternative mechanisms, such as attentional focus.
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Chapter 1: General Introduction

Although the term *pride* can often prompt negative connotations—"Pride comes before a fall," for instance—the emotional experience of pride is a positive one. When elicited through personal accomplishment, pride feels good and often has positive consequences for the individual. How can this fleeting emotional experience affect people and their social behavior, even outside of their awareness? This dissertation will examine how the emotional experience of pride can influence nonconscious mimicry behavior, and whether or not implicit feelings of power might be the mechanism driving this effect. Additionally, I will consider how pride, as well as mimicry behavior, might lead to potential benefits—as well as possible detriments—to working relationships.

1. Emotions in Everyday Life

Certain events and interactions can lead people to experience different emotional states throughout the course of the day, which can affect subsequent events and exchanges. The complexity of emotional experience has led to numerous theories on emotions, some dating back to the early days of psychology, with William James and Wilhelm Wundt, and others appearing quite recently (such as Lisa Feldman Barrett’s psychological construction approach to emotions; see Gendron & Barrett, 2009, for a review). The field faces certain conflicts about emotions, such as whether the physiological reaction or the cognitive appraisal happens first, or whether or not “basic emotions” exist—the idea that there are a small number of innate and cross-cultural emotions (Ekman, 1992; Ekman, Sorenson, & Friesen, 1969; Izard, 1977). Although debate exists about what exactly emotions are, and how they are comprised, what is clear is that emotions—however instantiated in the mind—influence subsequent behaviors (Barrett, 2012). Emotions help prepare people to act, given the certain circumstances (e.g., Barrett & Gross,
In my research, I focus less on the chronological order or exact makeup of emotional components, but rather mainly consider what adaptive functions emotions can serve—taking on a functionalist perspective.

**Functionalist Perspective**

When examining emotions from a functionalist view, researchers, myself included, believe that emotions serve human beings in adaptive ways, helping them to survive and thrive in the world. When faced with challenges, emotions help by motivating certain cognitions and behaviors that likely promote successful outcomes, having proven useful in the past (Frijda, 2000; Keltner & Gross, 1999; Keltner & Haidt, 1999; Lazarus, 1991; LeDoux & Phelps, 2000; Öhman & Wiens, 2003).

Common views on the functions of emotions focus on how they help people deal with problems that might put their survival or successful procreation at risk (e.g., Frijda, 1986; Lazarus, 1991). In this way, emotions’ goal-directed behavior aids in actual survival. Take, for instance, fear’s activation of the “fight-or-flight” response. When an individual experiences fear, she takes immediate, automatic action to prevent catastrophe—perhaps running away from the danger, or readying the body to fight for its life (LeDoux & Phelps, 2000; Öhman, 2002). Fear’s function promotes physical survival—hopefully helping the person live to see another day and pass on her genes.

Beyond the basic challenge of physical survival, living in human society involves the separate challenge of “social survival.” As human beings, we are inherently social, and need relationships to thrive in life (Baumeister & Leary, 1995). Psychologists have recently started looking at ways in which emotions can serve us in terms of our ability to form social bonds, develop social resources, and ultimately avoid social problems like isolation (e.g., Bartlett &
DeSteno, 2006; Cosmides & Tooby, 2000; Keltner & Busswell, 1997; Keltner & Haidt, 1999). Certain emotions serve to help us build and maintain these relationships, at an individual level, as well as to help us build group cohesion and navigate (and hopefully rise through) society’s social hierarchies, at the group level (Keltner & Haidt, 1999). In numerous ways, emotions can help people build social capital.

The idea that every emotion is always adaptive, and will always be adaptive in any context, is incorrect. However, we are operating based on useful information and patterns—that this specific emotion has inspired this type of behavior in the past, and has been successful in the face of this specific challenge (Tooby & Cosmides, 1990). If they had not been functional or adaptive, these emotions—and the actions they motivate—would not have continued through our evolutionary history. Even emotions that are unpleasant to experience—like disgust—are serving a useful purpose (avoiding contamination) and so are in that way functional (Nesse, 1991).

Fischer and Manstead (2008) discuss two types of social functions of emotion: affiliation and social distancing. While some emotions help people act cooperatively and get along with other people and groups, other emotions work to “differentiate the self or group from others and to compete with these others for social status or power” (p. 457). By attaining high social standing, individuals (or groups) can potentially benefit from their position at the top, and all the advantages that come with it.

In this view, discrete emotional states are thought to serve distinct functions for individuals. Although other researchers might focus on the difference between positive and negative states, functionalists believe that each emotion can motivate certain goals and provide individuals with unique benefits, and simply contrasting positive with negative affect fails to illuminate the much more intricate picture. For instance, although gratitude and pride are both
positive emotions, they occur in different contexts. Gratitude is felt in response to a gift, and tends to motivate people to reciprocate a favor (e.g., Bartlett & DeSteno, 2006). Pride, on the other hand, is felt when one succeeds at something, and appears to motivate personal achievement goals (e.g., Williams & DeSteno, 2008). If researchers aimed to summarize how positive emotions motivate people to act, they would find very different results for gratitude and pride; if they only studied gratitude, they would be wrong to generalize those findings to any and all positive emotions. As this example illustrates, discrete emotional states should be considered individually. For this dissertation, I will be focusing on pride, and showing how it can differ from a general positive affective state.

**Pride**

As previously mentioned, pride is a positive emotion felt when one succeeds at something deemed important. Whether it is winning a marathon, beating a personal record for the race, or just finishing the run on two feet, pride will arise for different people in different situations. The key factor is that the success has come about due to a person’s own efforts and abilities—not because of luck, cheating, or someone else’s endeavors (Tracy & Robins, 2004a, 2004b).

**Types of pride.** Other researchers have studied pride in terms of two types: authentic and hubristic (e.g., Tracy & Robins, 2004a; Tracy & Robins, 2007). Authentic pride is said to occur when an individual succeeds at something—recognizing that she has achieved something important through personal effort. In contrast, hubristic pride is described as a narcissistic arrogance that is tied to general or global feelings of personal superiority and ability, not necessarily any particular accomplishment. Authentic pride has been linked to positive qualities of the self, such as high self-esteem, positive prosocial orientation, more goal orientation, low
depression, low anxiety, low aggression, high relationship satisfaction, social support, and high life satisfaction (e.g., Carver, Sinclair, & Johnson, 2010; Orth, Robins, & Soto, 2008; Tracy, Cheng, Robins, & Trzesniewski, 2009). In contrast, hubristic pride has been found to negatively relate to Agreeableness, Conscientiousness, social support, and self-esteem, and positively relate to narcissism, aggression, anxiety, and hostility (Orth et al., 2009; Tracy & Robins, 2007a; Tracy et al., 2009).

There is some debate as to whether or not these two distinct facets exist, as well as whether or not Tracy and Robins’ (2007a) scale for measuring hubristic pride actually reflect an emotional state. For the purposes of this dissertation, the type of pride induction I use should result in a state akin to authentic pride—where individuals are told they have been very successful at an important task and have scored much higher than most other people. This should instill in participants a temporary positive state of pride, tied specifically to this personal achievement. I will simply use the term pride for the duration of this paper.

The function of pride. When considering the function of the pride experience, there appear to be several positive outcomes for the individual. Williams and DeSteno (2008) found that proud individuals persevered longer on an onerous task than those experiencing either a neutral state or general positive affect, suggesting that pride may help people accept short-term costs and focus instead on long-term goals. Working hard in the present can potentially help them achieve status, esteem, and power later on—gaining important social capital. Thinking in terms of the real world, one could work hard at a job—even if it is not very enjoyable—and earn a promotion further down the road, reaping the benefits that come with one’s rise in the hierarchy. Pride helps people achieve in the long run.

Additionally, in a separate study, the same researchers discovered that people
experiencing pride were more dominant in a group task, were perceived as more dominant by their group mates and outside observers, and were better liked by their group mates (Williams & DeSteno, 2009). Of import, the intensity of the pride directly predicted dominant behavior, as measured by the amount of time spent physically involved in solving a group puzzle task; in contrast, neither self-efficacy nor positive affect (both elevated in the pride condition) predicted dominant behavior. These findings posit that the unique emotional experience of pride serves individuals in adaptive ways, by making them act as assertive leaders who are perceived as dominant and yet likeable by their peers. Again, in the real world, pride could serve as motivation to work hard, earn status, gain recognition from others, and maintain that status with approval from one’s peers, subordinates, and superiors—enjoying the benefits experienced by those at the top of the social hierarchy.

These findings lend support to the argument that pride serves a social distancing function (Fischer & Manstead, 2008). Individuals experiencing this emotion are motivated to further their successes and maintain or raise their social rank through perseverance on relevant tasks. Additionally, proud individuals work hard for success at group tasks, and are judged by others to be dominant, yet likeable. They are gaining a reputation through their behavior, and earning a respected place in their social contexts. In these ways, even one experience of pride spurs further engagement in behavior necessary for future achievement. The individual strives to gain a higher social ranking through success, and others recognize her as having dominance—or power—in social situations. This type of social distancing—placing oneself above the rest—is due to the pride experience, and likely places the individual in a prime place for garnering social benefits—winnings that come from having status and power.

In a similar conceptualization of pride, Kitayama, Markus, and Kurokawa (2000)
consider the dimension of social orientation in their discussion of emotions, and call pride a “socially disengaging” emotion—one that puts the focus on the self as an independent being, distinct from others in the social context. This is in comparison to a socially engaging emotion, like gratitude, which is more focused on the interdependence of human beings—how the self is connected to others. Again, this conceptualization acknowledges pride’s personal nature, and motivation for self-advancement.

**Power and Status in the Social Hierarchy**

The type of pride experience present in these dissertation studies should affect people’s feelings of superiority and social rank. By accomplishing something important and excelling when most people have not, an individual should feel high ranking in this context, as compared to the majority of others who have ranked lower than she has. This puts the person at the top of the social hierarchy, with everyone else down below. It seems very likely then, in the context of these studies and the emotion manipulation, that pride elevates feelings of social rank, socially distancing (and disengaging) an individual from the common group. This is not to say that proud individuals will be disliked by others; this is only to say that their focus will be on moving up in the hierarchy—not on affiliation. Indeed, as found in Williams and DeSteno’s (2009) work, other people rated proud individuals quite positively—as more likable and more dominant teammates.

Most often, social rank is discussed in terms of power and status, with some work also including dominance (so-called the “vertical dimension;” Hall, Coats, & LeBeau, 2005). A growing body of work has aimed to consistently distinguish power from status—a trend beneficial to the research community (e.g., Anderson, Keltner, & John, 2003; Magee & Galinsky, 2008). Although they are both related and both directly pertaining to social hierarchies, they should be treated as distinct concepts.
Power is defined as having control over resources—being able to decide if and how to allocate (or withhold) valuable things like money, supplies, or promotions, or how to punish or evaluate other people (e.g., Dépret & Fiske, 1993; Keltner, Gruenfeld, & Anderson, 2003). Power, therefore, is a property of a person; even though it depends on the social context, it is still a concept held by the individual (Bargh, Raymond, Pryor, & Strack, 1995; Chen et al., 2001; Galinsky, Gruenfeld, & Magee, 2003). Status, on the other hand, depends on having admiration and respect from other people; others must bestow status upon an individual when evaluating her social worth, and therefore status is really a property controlled by observers (e.g., Chen et al., 2012; Ridgeway & Erickson, 2000). Both power and status can be considered at the level of the individual, as well as at the level of the group; social hierarchies obviously can reference which person has power or status over other people, and which social groups have power or status over other groups (although I will not be considering the group level in this dissertation; see Magee & Galinsky, 2008, for their review).

When one person has power and/or status, it naturally follows that another person lacks it; power and status could not exist—and would not be meaningful—outside of a social context (Anderson, John, & Keltner, 2012; Depret & Fiske, 1993). Relationships, therefore, often tend to involve power or status differentials, where power or status can give one person influence over another (Fragale, Overbeck, & Neale 2011). Individuals’ relative social power or status can differ from relationship to relationship, depending on the relevant factors at play. For instance, the president of the PTA can be an assistant at her day job (Lenski, 1954; Stryker & Macke, 1978). Individuals’ power and status can also differ between the local context and global realm, such that the manager of the local office (high power/status) has to report to the president of the whole company (low power/status); or, as a separate example, a person might have to choose
between working as a higher status employee of a lower status firm, or as a lower status employee of a higher status firm (Frank, 1985; Phillips, 2001).

Power and status—when considered in these ways—can independently differ and interact to affect behavior (Fast, Halevy, & Galinsky, 2012; Magee & Galinsky, 2008). Although they are often related (power leading to status, or status leading to power), this does not always have to be the case. Consider, for instance, prison guards or TSA workers—who have power but lack status. Their behavior—their likelihood of aggression, for example—is likely to differ from people high in both power and status. Additionally, people’s motivation to attain power can differ from their motivation to attain status (Hays, 2013).

**Pride and Power**

For this dissertation work, I will be focusing on how pride operates in a social realm. One of my goals will be to show empirically that pride elevates feelings of social rank, specifically feelings of implicit power. As opposed to status, power is defined more in terms of the self; status depends on others’ perceptions. It is my belief then that, when it comes to pride, personal feelings of power are more likely to change than feelings of status, since status in some ways must be conferred upon an individual by others. One would hypothesize that with recognized success, social status would accrue over time, but one instance of pride—in these studies, occurring privately, without public recognition beyond that of the experimenter—is not likely enough to change a person’s social standing. However, it might be enough to alter a person’s implicit feeling of power and capability in the immediate moment.

Research on the outcomes of power is vast and varied. Considering power’s role in the social realm, investigators have considered how power affects information processing, increases focus on the self (as opposed to others), and creates social distance. Taken together, it is clear
that power can be a very important element to consider.

**Power and information processing.** Power appears to inspire abstract thinking, rather than deeper processing—driving people to think of the world in less effortful, less deliberate ways, often relying on stereotypes (Fiske, 1993; Goodwin, Gubin, Fiske, & Yzerbyt, 2000; Keltner et al., 2003; Smith & Trope, 2006). When they are the ones in power, there is no need to worry too much about anyone else (as they are the ones in charge), and powerful people generally pay less attention to others. In comparison, individuals with low power are thought to pay more attention to, and defer to those ranking above—as they have to win over and learn from these higher power individuals, in order to advance themselves within the social hierarchy (Depret & Fiske, 1999; de Kwaadsteniet & van Dijk, 2010; Keltner & Robinson, 1997; Stevens & Fiske, 2000; however, see Overbeck & Park, 2006 for their assessment of contextual factors).

**Focus on the self.** In one study looking at how power might lead people to maintain their beliefs, even in the face of others’, researchers had participants complete an autobiographical writing exercise about a time they had power over someone else, or someone else had power over them—inducing high and low feelings of power. Then, participants engaged in a tedious sentence completion task, followed by a feedback sheet about how interesting and enjoyable the task was. In some conditions, participants were exposed to the opinions of 10 “previous participants”—actually forged responses that all reported high enjoyment of the task on a likert scale. Results showed that powerful individuals were less influenced by the opinions and beliefs of others, maintaining their own nonconforming opinions about their enjoyment of the tedious task. In two other studies by the same research team, they found that proud individuals were less affected by provided examples, creating, in one study, their own unique examples of product labels rather than being influenced by benchmarks, and—in a second study—drawing their own
ideas of alien creatures, with or without an example picture (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008).

In another series of studies, Galinsky and colleagues investigated power’s effect on perspective-taking. First, a correlational study showed people’s self-reported personal sense of power (how powerful they felt in their relationships with others) correlated negatively with a scale about perspective-taking (how often they adopt the viewpoint of other people). Four experimental studies showed that power decreases a person’s ability to take on the perspective of another person, in terms of the other person’s visual perspective, emotional perspective, and background knowledge (Galinsky, Magee, Inesi, & Gruenfeld, 2006; however, see Schmid Mast, Jonas, & Hall, 2009 for findings on interpersonal sensitivity).

Power even leads to increased spending on the self, rather than others (Rucker, Dubois, & Galinsky, 2011). Researchers maintain that powerful individuals focus on the self in order to gain resources and maintain their position in the social hierarchy (Chen, Lee-Chai, & Bargh, 2001; Willis & Guinote, 2011). Additionally, powerful individuals judge themselves less harshly than others when it comes to moral transgressions—a type of self-interested, moral hypocrisy likely driven by entitlement and a motivation for reward (Lammers, Stapel, & Galinsky, 2010). In relationships, the low power partner changes his or her emotions over time to converge with those of the high power partner; the high power partner changes significantly less—another sign of self-focus (Anderson, Keltner, & John, 2003). Similarly, Cast (2003) found that relationship partners with more power were more likely to assert their identity, impose it on their partners, and resist any of their partners’ efforts to impose identity on them.

**Creating social distance.** Other work has shown that, because of the control element of the power experience—that having power means having control over one’s own resources and
outcomes—power leads people to feel more independent and less reliant on others (Fiske, 1993; Keltner, Gruenfeld, & Anderson, 2003). In part due to this self-sufficiency, power increases social distance—a person’s feeling of distance from other people and a preference to be alone. In a series of studies, Lammers and colleagues found that people in high power conditions—when the power was legitimate—preferred to work alone, rather than with others, preferred more socially-distant video games, and were less willing to help others (Lammers, Galinsky, Gordijn, & Otten, 2012). In his unpublished dissertation, Conlon (2012) showed that powerful individuals reported less desire to connect with others, less interest in being a part of a campus group, and increased physical distance from a social partner, as compared to neutral and low power individuals.

In fact, Lammers and Stapel (2011) even found that power increased dehumanization of the outgroup—treating human beings more like objects or animals. Power has also been linked to demeaning behavior—power increasing verbal and physical harm to others (e.g., Georgesen and Harris, 1998; Howard, Blumstein, and Schwartz, 1986; Kipnis, 1976). These findings lend support to the idea that powerful individuals socially distance themselves from other people—for better or for worse. Similarly, a study comparing how business executives (high power) and MBA students (low power) describe their relationships with subordinates and peers found that executives objectified subordinates more than MBA students did, and that both groups objectified subordinates more than their peers—implying that power can play a role in the extent to which people perceive others as objects serving instrumental purposes, rather than seeing them as human beings (Gruenfeld, Inesi, Magee, & Galinsky, 2008).

Given these findings, power appears to increase a person’s focus on her own thoughts and behaviors, and decrease affiliation goals. In the current studies, how pride, and the implicit
sense of power it brings about, affects people within their social interactions will be considered mainly in terms of the nonverbal behaviors that follow an experience of pride.

2. Nonconscious Mimicry in Daily Social Interaction

Succeeding in the social world often requires not just good social standing, but also strong relationships and social networks. That said, there are many factors that go into creating strong social bonds. For this dissertation, I will focus on the function of nonverbal behavior in aiding affiliation goals—in particular, the role of nonconscious mimicry.

Nonconscious mimicry

Nonconscious mimicry has many other synonyms in the psychological literature: behavior matching (e.g., Bernieri & Rosenthal, 1991), automatic imitation (e.g., Heyes, 2011), and behavioral mirroring (e.g., Sanchez-Burks, Bartel, & Blount, 2009), to name a few. Regardless of term used, this concept is about how two individuals copy one another’s motor movements, behaviors, and postures over the course of an interaction, outside of their conscious awareness, without intent or effort (Chartrand & Bargh, 1999). Mimicry unfolds over the course of a social exchange, with both partners likely to mimic and be mimicked by the other person during the duration of the interaction. Some researchers include emotional mimicry (taking on the emotion of another individual), facial mimicry (copying the emotional facial expressions of another), and verbal mimicry (copying the words, accent, or intonation of another) in their discussions (e.g., Bourgeois & Hess, 2008; Fischer, Becker, & Veenstra, 2012; Jacob & Guéguen, 2013; Likowski, Mühlberger, Seibt, Pauli, & Weyers, 2008; van Baaren, Holland, Steenaert, and van Knippenberg, 2003); the present research will only consider behavioral mimicry. Mimicry has been found to occur in many different contexts (such as face-to-face or onscreen, with computer avatars or pre-recorded video clips), and with many different factors
affecting how mimicry plays out, which will be considered later on.

**The function of nonconscious mimicry.** Nonconscious mimicry is an element of successful social interaction. It works to help both the quality of the exchange as well as one’s social perception of the exchange partner. Past studies have found that mimicry relates to people’s perceptions of the smoothness of the interaction (Chartrand & Bargh, 1999), as well as a number of variables regarding people’s judgments of their partners’ likeability (e.g., Chartrand & Bargh, 1999; Kouzakova, Karremans, van Baaren, & van Knippenberg, 2010; van Swol, 2003). Additional research has found that having an affiliation goal—either consciously or nonconsciously—increases mimicry behavior (Lakin & Chartrand, 2003; Lakin, Chartrand, & Arkin, 2008), as do feelings of romantic or physical attraction (Farley, 2014), lending further support for the idea that mimicry is an important component of social interaction and relationship formation. In a meta-analysis I co-authored (Vicaria & Dickens, under review), we empirically summarized the literature that involved mimicry (and synchrony—a somewhat similar but distinct phenomenon involving individuals performing artificial motor movements in a time-synced fashion—which will not be discussed in this paper) as an independent variable, finding robust effects for manipulated mimicry on many positive outcomes of social interaction, including prosocial behavior, feelings of closeness, trust, and liking. The research on mimicry presents a strong, well-supported case for its role as a “social glue.”

**Affect as a moderator.** Some research has shown that affect sometimes plays a part in subsequent mimicry behavior (using mimicry as a correlated or dependent variable). In one study, van Baaren, Fockenberg, Holland, Janssen, and van Knippenberg (2006) found that mimicry was positively correlated with positive affect—the more positive a person reported feeling at the moment (how happy, good, and joyful), the more she exhibited nonconscious
mimicry (both in terms of frequencies and durations of mimicking behavior). A second study by the same research team manipulated affect using video clips; half the participants were put in a positive affective state, and half were put in a negative affective state. They found that participants in the positive condition played with a pen significantly more when an on-screen experimenter did the same behavior than when the experimenter did not.

Basing their work on van Baaren’s studies, Likowski and colleagues (2011) investigated how positive and negative affect impacted mimicry of emotional facial expressions. They found that participants in a positive affect condition had stronger congruent muscle responses to all facial expressions than did those in a negative affect condition. Those experiencing positive affect mimicked the movements of happy and sad faces, and to some degree angry faces, whereas those experiencing negative affect showed no mimicry behavior.

Interestingly, a study investigating gratitude’s effect on nonconscious mimicry found that grateful participants, when in an interaction with their benefactor, mimicked the benefactor’s behavior significantly more than participants who were in a positive affective state (Jia, Lee, & Tong, 2015). Additionally, this gratitude finding was unique to interactions with benefactors; interactions with unrelated others did not show a difference between positive affect and gratitude participants. These findings suggest that there might be more nuanced effects of discrete positive emotions and context; although positive affect is important to investigate, so are positive emotions like gratitude and pride, as well as the context of the mimicry.

In the only other known study that looked at how a person’s specific emotional state impacted his or her mimicry behavior, Martin, Guéguen, and Fischer-Lokou (2010) manipulated feelings of guilt in the lab—by orchestrating a situation in which the participant was held responsible for a transgression against the experimenter—and then measured the participant’s
mimicry behavior toward an unrelated other. Those in the guilt condition mimicked an on-screen actor significantly more than those in a control condition; this effect was mediated by reported feelings of guilt. The researchers proposed that the guilt experience was uncomfortable; it meant that they had failed in a social interaction. Having failed, the guilt motivated individuals to perform more successfully at a subsequent social interaction, therefore motivating mimicry behavior as an attempt to affiliate.

The results from Jia and Martin and their colleagues serve as evidence that when studying nonconscious mimicry, it is important to remember how discrete emotional states might function to motivate future behavior in different ways. Guilt provokes a need to succeed in social interaction; although the emotional experience is hedonically negative, the function of guilt is positive, in that it prompts behaviors linked to successful affiliation. Gratitude, on the other hand, is hedonically positive, and in addition serves a function to motivate affiliation with others; depending on context, the effects of gratitude can be significantly more pronounced than that of general positive affect. When simply comparing positive and negative affect in terms of nonconscious mimicry, one is ignoring the social function of emotions, and failing to tease apart the potentially differential effects of discrete emotional states.

3. Connections between Pride, Power, and Nonconscious Mimicry that guide this work

Pride occurs in response to an important personal success that has been achieved due to one’s own efforts and abilities. It acts to inspire further successes and to motivate a person to climb up the ranks of the social hierarchy. Pride likely instills in people a sense of power—a feeling that “I am in charge, and I can do anything.” It is likely this feeling of power that helps to bring about behaviors aimed at attaining high social rank. Pride inspires social distancing and socially disengaging behaviors—making oneself unique and distinctive, focusing on self-
improvement, and working to reach the top of the social hierarchy. Pride does not motivate affiliation goals, perhaps in part due to its focus on these other important personal goals. It could also be that people experiencing pride—and with it, power—are already seen as attractive social partners, and therefore do not have to try hard to affiliate with others. If other people are naturally attracted to them (because of their elevated social standing and the benefits that come with it), proud individuals can succeed at affiliation, even when not engaging in relevant social behaviors (Williams & DeSteno, 2009). Pride motivates them to put their energy and focus on self-advancement, while decreasing their focus on behaviors (like mimicry) that are not necessary for success.

As pride and its accompanying sense of power increase, affiliative behaviors like nonconscious mimicry are likely to decrease. The aim of this dissertation is to examine how pride affects affiliative nonverbal behavior, and to determine if its effects are due to implicit feelings of power. Using multiple studies, I hope to find empirical support for the function of pride being to socially distance the self from others, as opposed to affiliate. The potential drawbacks of the ensuing nonverbal behavior will also be discussed, as well as the possible benefits that pride might have for the self and perceptions of working relationships (both the proud individuals’ perceptions and their partners’).

4. Overview of the studies

Taken together, this series of studies aim to investigate pride’s influence on nonverbal behavior, and one mechanism that might be driving the effect. I intend to show that pride—although a positive social emotion, with many adaptive advantages—can negatively affect affiliative nonverbal behavior, even when positive affect usually increases it. I further aim to examine whether or not an individual’s feeling of implicit power mediates this effect.
Additionally, I aim to show—through self-reports—that pride can also have some positive benefits for working relationships, despite its associated mimicry behavior.
Chapter 2
Comparing Pride Versus Positive Affect

In order to show that pride specifically alters nonverbal behavior, Study 1 was designed to pit pride against both a neutral control condition as well as a general positive affect condition. The inclusion of the positive affect condition allowed me to determine whether or not pride acts in a unique way to alter behavior, in contrast to the outcome of positive affect. Again, this is in support of the view that discrete emotions serve distinctive functions for individuals, which warrant independent examination. As pride comes about due to a personal achievement, the resulting behavior should be specific to this experience.

I hypothesized that people experiencing pride would engage in reduced nonconscious mimicry, as compared to people experiencing either positive affect or neutral affect. I also hypothesized that people in the positive affect condition would show the most mimicry behavior, in support of past literature (Likowski et al., 2011; van Baaren et al., 2006).

Method

Participants

Fifty-nine individuals (36 women, 23 men; mean age = 19 years, SD = 1.10) participated in this experiment and were randomly assigned to one of three conditions: neutral, pride, and general positive affect. All participants received course credit in exchange for their time.

Procedure

Participants believed that they were taking part in two separate studies—one involving cognitive processing, and one involving language use. The first phase would be completed individually through use of a computer, and the second phase would be completed through conversing with another individual. Participants believed this other individual was another
participant taking part in the study. In actuality, however, this second “participant” was a female confederate who was blind to the hypotheses of the study and the emotion induction condition of the participants.¹

At the start of the first phase, the experimenter seated single participants at a computer workstation and described the nature of the so-called “Cognitive Skills Assessment” that was to be completed. This set of tasks included a difficult mental rotation task and a spatial perception task, where participants tried to estimate the number of red dots that appeared in images on the computer screen. Participants were informed that performance on these cognitive tasks was an important indicator of one’s general level of intelligence and overall aptitude for success. In actuality, the purpose of the tasks was solely to allow false feedback to be given regarding performance. Both tasks took roughly ten minutes to complete. Participants were unable to determine how well they had performed on their own, as they were told that scoring was influenced by both their speed and accuracy in comparison with the speed and accuracy of other participants who had previously completed the exercises.

At this point in the procedure, participants experienced one of the three emotion inductions (see below), after which, they completed an emotion manipulation check and then moved on to the second phase of the experiment. As noted above, this phase purportedly involved language sampling but in actuality served to provide a measure of nonconscious mimicry. Participants were then debriefed.

**Manipulations and measures.** These manipulations and measures will be used in much of the proposed research, so will be presented here in depth.

¹ Past research has not found any gender differences when comparing matched-gender or mixed-gender dyads (e.g., Chartrand & Bargh, 1999). Few studies even report the gender of the confederate. For all of the studies reported here, I had a female confederate interacting with both female and male participants.
Emotion manipulation. All manipulations immediately followed participants’ completion of the computer-based cognitive tasks. In the pride induction (Williams & DeSteno, 2008, 2009), the participant was instructed on screen to wait for the experimenter to come deliver her final score. The experimenter then entered the lab and verbally praised the participant on her fantastic work, saying, “I just wanted to show you how you did on those tasks. You got a score in the 94th percentile – great job! It’s one of the highest scores we’ve seen!” The praise was given with positive nonverbal behavior (smiles, positive intonation) from the experimenter.

In the general positive affect condition, the participant was simply instructed to wait for the experimenter after completing the cognitive tasks. The experimenter entered the lab, gave no feedback on the tasks, but rather explained what would happen during the next few minutes. As she prepared to leave the room, the experimenter stopped and said, “Oh, right,” as if remembering something. She took a box with some candy bars and chips and offered it to the participant, saying, “Before I forget, one of the other grad students brought in some snacks for a meeting we had. We have a bunch of leftover stuff—is there anything you might want for later? Please, feel free.” Participants always took one or two items from the box. Similar mood inductions involving free refreshments or gifts have been used successfully to induce positive moods (e.g., Isen & Levin, 1972; Isen, Daubman & Nowicki, 1987). There is no reason to believe that people in this condition would experience elevated feelings of pride, as no positive feedback was provided, and the participants did not have to do anything to earn or deserve the free refreshments.

In the neutral condition, the participant finished the cognitive tasks and was instructed to wait for the experimenter to come enter a password in order for the experiment to continue. The experimenter came in to the lab, gave no feedback on performance, and then engaged in a brief,
affectively-neutral conversation with the participant about mundane topics and entered the supposed password. This conversation occurred to keep the amount of interaction with the experimenter constant across conditions.

*Emotion measures.* Following the inductions, participants completed a questionnaire, asking for feedback on the experiment. Embedded into this measure were questions designed to measure specific affective states using 5-point scales. Pride was measured as the mean response to three items: “How proud/confident/accomplished do you feel at this moment?” (α = 0.81). General positive affect was assessed as the mean response to three items: “How positive/happy/content do you feel at this moment?” (α = 0.86).

*Mimicry measure.* Participants were told that they would now spend five minutes conversing with another participant so that experimenters could record their conversation as part of a purported experiment on language use. While the experimenter went to retrieve the other participant (who was a confederate), the true participant completed a simple demographic questionnaire and then waited for the experimenter to return.

The experimenter then reappeared with the confederate, who was blind to condition and hypotheses. The participant and the confederate were seated across from one another in the center of the room, and were told to have a 5-minute conversation. They were given a set of conversation topics, and left alone to converse. Conversations were recorded (with participants’ knowledge) using three time-locked digital video streams. These streams allowed for “head-on” views of each participant, as well as a side view that captured both participants simultaneously. As in previous mimicry studies (e.g., Chartrand & Bargh, 1999; Likowski et al., 2011; van Baaren et al., 2006), the confederate constantly shook her foot for a majority of the discussion. This behavior has been deemed relatively innocuous, and easy to manipulate. Confederates were
trained to engage in a subtle, continuous foot shaking behavior, stopping approximately once per minute for 10 seconds, before beginning again. Foot shaking mimicry was later coded as the proportion of time the participant spent shaking her foot, while the confederate was also foot-shaking.²

Results

Manipulation Checks

As predicted, a between-subjects one-way analysis of variance (ANOVA) confirmed that pride levels differed across the emotion induction conditions, $F(2, 58) = 10.22, p < .001$. Fisher’s LSD post-hoc analyses revealed that participants in the proud condition felt significantly more proud ($M = 5.16, SD = 0.88$) than did those in the general positive affect ($M = 4.15, SD = 1.02$) and neutral ($M = 3.63, SD = 1.26$) conditions (both LSD comparisons to pride $p < .01$), neither of which significantly differed from each other. Similarly, a second ANOVA and Fisher’s LSD post hoc tests showed that those in the general positive affect condition ($M = 4.83, SD = 1.14$) and those in the pride condition ($M = 5.04, SD = 0.69$) experienced significantly elevated levels of positivity compared to those in the neutral condition ($M = 3.98, SD = 1.06$, LSD $p’s \leq .01$), $F(2, 58) = 10.22, p < .001$.

² Originally, I planned to analyze mimicry in multiple ways: as a count (number of times participants engaged in the behavior); as a duration (the number of seconds participants engaged in the behavior); and as a time-lagged behavior (the number of times the participant started shaking her foot within 5-seconds of the confederate starting to shake her foot). For Study 1, each of these three analyses was significant. Due to the relatively continuous nature of the foot shaking behavior, I felt the duration was the most appropriate analysis—as one "count" of foot shaking could last the entire duration of the interaction (in theory). For all subsequent studies, I only report the proportion of time spent mimicking, while the confederate was foot shaking, in order to reduce redundancies in reporting. If I analyze the full duration (including times when participants were foot shaking when the confederate was not), results remain significant. For the most accurate portrayal of mimicry (copying someone else’s behavior), I felt that limiting the time to moments when the confederate was foot shaking was the best approach, although it could be argued that the foot shaking behavior began as a mimicking behavior, and thus the whole duration should be counted.
58) = 5.97, \( p = .004 \), but did not differ from each other. This anticipated finding confirmed that the inductions produced two groups experiencing distinct positive emotions characterized by similar levels of positive affect (cf. Bartlett & DeSteno, 2006; Williams & DeSteno, 2008).

**Behavioral Mimicry**

Two independent judges used the video recordings to code the amount of time that participants spent exhibiting foot shaking behavior while the confederate was also shaking her foot. The resulting score – a proportion of time spent mimicking – served as the primary dependent variable. Judges were blind to condition. One judge coded 100% of the tapes, and the other coded a subset of the tapes (50%) in order to assess interrater reliability. As expected given the simple nature of the coding scheme, reliability was excellent, \( r = 0.97, p < .001 \). For consistency, all analyzed data came from the initial coder. This same procedure was done for all studies, with similarly high levels of reliability, and will not be mentioned again.

Given that the levels of mimicry across the three conditions were expected to increase in an ordinal manner moving from pride to neutrality to general positive affect, we used a linear contrast with the respective weights of -1, 0, and 1 to examine mean differences. This contrast confirmed the predicted pattern, \( F(1, 58) = 11.66, p = 0.001, \omega^2 = .23 \); mimicry was significantly reduced in the pride condition and elevated in the positive affect condition as compared to a neutral state (see Figure 1). Planned contrasts provide increased power with which to examine predicted mean differences. Simple paired comparisons employing Fisher’s LSD tests also confirm that mimicry in the neutral group differed from those of the pride and general positive affect groups, respectively (both \( ps \leq .10 \)). Contrast residuals were not significant, \( F < 1 \).

To increase confidence that pride was responsible for the decrease in mimicry, we regressed the proportion of foot shaking behavior on pride intensity across all participants. As
expected, pride intensity proved to be a reliable negative predictor of mimicry, $\beta = -0.26, t = 2.04, p < 0.05$. A traditional mediation analysis—which would entail estimating the unique indirect as opposed to direct effect of the emotion manipulation—was not useful here. Regressing mimicry on both condition and pride intensity resulted in a model that, although explaining significant variance in mimicry, possessed no individually significant predictors. This situation frequently occurs when the link between the independent variable and mediator is high, suggesting the existence of a tightly controlled complete mediation of the dependent variable.

We also regressed the proportion of foot shaking behavior on pride and positive affect simultaneously. Here again, as expected, only pride remained a reliable predictor of mimicry, $\beta = -0.42, t = 2.38, p < 0.03$, clearly differentiating its effect from general positive affect. Although elevation in positive affect was clearly associated with increased mimicry in the ANOVA analysis (replicating past work), its lack of explanatory power within the context of a regression analysis on the entire sample is to be expected due to the correlation of positive affect measurements with pride among proud participants. Given that pride is a specific positive state, positive affect correlated with pride among participants in the pride condition, thus resulting in a partial suppressor effect for positive affect in analyses aggregating data across all participants. Nonetheless, the benefit of this finding is that it clearly indicates that the influence of pride on mimicry can be clearly differentiated from any corresponding influence of positive affect.

**Discussion**

This study lends support to the idea that discrete emotional states must be examined independently when trying to determine their unique effects on nonverbal behavior. Pride operates differently from general positive affect to affect nonconscious mimicry. Whereas positive affect increases mimicry behavior, pride decreases it. We found differences by
condition, as well as evidence that the intensity of the pride experience predicted mimicry (and positive affect did not).

However, this study did not investigate the mechanisms by which the pride experience alters nonverbal behavior. I believe there are two potential mechanisms that seem most promising: pride-altered affiliation goals related to perceptions of power, and pride-induced alterations in attentional focus.

The current studies will focus on power—reduced affiliation goals stemming from a pride-induced subjective elevation in perceived power (attentional focus will be saved for the discussion). With an increasing power differential between oneself and those ranking below, proud individuals might be less concerned with, and less inclined to mimic those deemed to be of lower status. Individuals seem to value a proud other more (when the pride is not hubristic in nature; Williams & DeSteno, 2009), and therefore these individuals might be more likely to try to affiliate with proud others, in order to gain from the relationship (and whatever high social standing brings to it). However, the reverse does not hold; proud individuals do not like or value nonproud others more, indicating that proud individuals likely do not share this desire to affiliate—as the relationship will not be as useful for them as it is for the lower-ranking others (Williams & DeSteno, 2009). In line with Fischer and Manstead’s notion of pride serving a social distancing function, pride and the power it brings might make a person less concerned with affiliation goals, and might even lead a person to compete with others and attempt to socially distance herself from others. If pride motivates a person to strive for higher social ranking, her focus will not be on strengthening social bonds, but instead on getting ahead, even if that means leaving other people behind.
Chapter 3

Considering Pride’s Effect on Implicit Power

I conducted Study 2 in order to investigate the link between power and pride. It was designed to examine whether or not pride alters an individual’s feeling of power, and whether this then affects mimicry behavior. I predicted that pride would elevate people’s feelings of power at an implicit level—automatically and outside of awareness—as well as at an explicit level. As mentioned, the pride experience seems likely to incorporate a power element, but this has remained empirically untested in the literature. If pride motivates self-advancement—working to maintain one’s position or preferably rise up in the social hierarchy—then with that pride experience comes an element of social rank. Pride signals that one has achieved something when others have not; pride automatically places a person at a higher level than others in the hierarchy.

In order to test this hypothesis, I designed a study that induced pride in the lab—using the same manipulation as Study 1—and then had participants complete measures of both implicit and explicit power. As implicit measures of power have not been used in past research, I designed two novel tasks—based on reliable tasks used in other areas of study—to try to quantify the construct. I hypothesized that people in the pride condition would show elevated scores for implicit and explicit power, as compared to a neutral condition. I also hypothesized that the intensity of the pride experience would predict how strongly people would experience power.

**Method**

**Participants**

Sixty-two participants (49 women; mean age = 18.61, SD=1.34) came to the lab and were
randomly assigned to one of two conditions: pride or neutral. For participating, individuals received course credit.

**Procedure**

This study followed a very similar methodology to that of Study 1, but with additional implicit power measures. Participants were brought to the lab one at a time and told that they would be participating in two separate studies—one involving cognitive processing and one involving language use. The first phase was completed individually on the computer, and the second phase involved a conversation with another individual. Participants were led to believe that this other individual was another participant taking part in the study. In actuality, however, this second “participant” was a confederate who was blind to the hypotheses of the study and the emotion induction condition of the participants.

At the start of the first phase, participants completed the same previously mentioned 10-minute “Cognitive Skills Assessment” involving mental rotation and dot estimation tasks. Again, it was made clear that performance on these cognitive tasks was an important indicator of one’s general level of intelligence and overall aptitude for success.

Following this, the study broke into two conditions: neutral or pride. Neutral participants simply engaged in a flat-affect exchange with the experimenter. Participants in the pride condition received the same positive feedback as previously mentioned. After this, they filled out an emotion manipulation check before moving on to two measures of implicit power. The manipulation check included items relating to pride, power, and general positive affect.

The first implicit power measure was designed similarly to other Implicit Association Tests (IAT; Greenwald, McGhee, & Schwartz, 1998), with the main comparisons being made between self and other, and powerful versus powerless. Implicit power was determined by
comparing reaction times for responses that linked self with powerful and other with powerless, against those linking self with powerless and other with powerful. The more a person relates power to the self, the faster those reactions will be, and the slower she will be at relating self with powerless.

Following the format from Greenwald and Farnham’s (2000) generic IAT for self-esteem, participants sorted self items (me, mine, myself, my, I) and other items (they, their, them, themselves, theirs) into the appropriate categories. However, since we were interested in implicit feelings of power, we had participants additionally sort powerful items (authority, assertive, leader, important, prestigious) and powerless items (weak, helpless, vulnerable, subordinate, submissive).

For this task, participants first completed innocuous practice trials of the IAT in order to gain familiarity with the procedure (e.g., simply categorizing the self-relevant words into the self category and non-self-relevant into the other category). The critical trials of the IAT paired the categories, such that in one trial, both the categories self and powerful were on the left side, and other and powerless were on the right; in a later trial, the pairings switched, such that self and powerless were paired, as were other and powerful. Participants had to quickly sort both self and power words into the appropriate category. Again, the more the person associates power with the self, the quicker she would be to respond in the self/powerful pairing trial, and the slower she would be in the self/powerless trial. Her score was computed using the D metric (Greenwald et al., 2003), which subtracted her mean response time for the self/powerful critical trials from self/powerless critical trials, then dividing by the pooled standard deviation of the trials. The higher the D value, the stronger the association between the self and power.

As this was a novel use of a power IAT, I also included another implicit power measure:
a word stem completion task. This type of task asked participants to complete three-letter word stems by writing in extra letters to the end to form a valid English word. For example, STR-- could be completed with ONG to become STRONG, or with ING to become STRING. They are told to complete the stems with whatever word comes to their mind first—the idea being that if they are feeling a certain way (i.e., powerful), words related to that feeling should be the first to come to mind (i.e., strong). This task has been used by numerous past researchers with varying applications (e.g., Gilbert & Hixon, 1991; Tiggemann, Hargreaves, Polivy, & McFarlane, 2004; Tulving, Schacter, & Stark, 1982). For this study, all of the words in the set could be completed to form power-related words as well as non-power-related words. For each of 10 items (strong, leader, status, important, skilled, respect, influence, dominant, prestigious, potential), we counted the number of power-related completions to assess participants’ implicit power.

Additionally, I included an explicit power measure, asking participants to report how powerful they felt at the moment (along with a few filler items and other manipulation check questions; for pride, $\alpha = .82$, and positivity, $\alpha = .83$).

Following this, the confederate—seemingly another participant from a different lab—was brought into the room for the “Language Study,” which again involved a five minute conversation during which the confederate constantly shook her foot. We videotaped and later coded the interaction for the proportion of time the participant spent mimicking the confederate’s foot-shaking behavior. After the five minutes were up, participants filled out a demographic questionnaire, a questionnaire about the interaction (e.g., “How anxious did you feel during the conversation?”), and a questionnaire asking what sort of task they would prefer to do next, if they had to choose. This “future task preference” questionnaire was designed to examine the task qualities that proud individuals might seek out, such as challenging tasks, independent tasks,
and novel tasks. They rated their preference on a 1-5 Likert scale, 1 being “definitely not” and 5 being “definitely yes.” Following that, the study concluded.

**Results**

**Manipulation Check**

To see if the emotion manipulation was successful, an independent t-test compared the neutral conditions against the pride condition. Feelings of pride differed across emotion conditions, $t(60)=6.63, p<.001$. Participants who received the pride manipulation felt significantly more proud ($M=5.31, SD=0.96$) than those in neutral condition ($M=3.72, SD=0.93$). Feelings of generally positivity also differed significantly across conditions, $t(60)=4.30, p<.001$. Participants in the pride condition reported significantly higher positivity ($M=5.31, SD=0.95$) than participants in the neutral condition ($M=4.26, SD=0.96$). As pride is a positive emotion to experience, this manipulation check came out as expected.

**Power Ratings**

First, I compared the two conditions on their IAT results. One participant was left out, due to the computer failing to record her data. The $D$ metric was calculated for each individual. Again, higher values of $D$ imply higher feelings of implicit power, or stronger associations between the concepts of self and power. An independent t-test revealed that participants in the pride condition had significantly higher levels of implicit power ($M=0.40, SD=0.31$) than participants in the neutral condition ($M=0.23, SD=0.26$), $t(59)=2.36, p=.022$.

Turning to the word completion task, after data collection, the answers given by participants were examined. Items that no one completed using a power-related word (prestigious, status) were disregarded, as were items that nearly everyone completed using a power-related word (dominant, leader), leaving the score out of six. Comparing participants’
word completion task results, I did not find a significant difference between conditions, t(60)=0.69, p=.494. People in the neutral condition reported a similar number of power-related words (M=2.97, SD=1.66) as compared to people in the pride condition (M=2.68, SD=1.66). As this was also a novel task, the lack of findings is not surprising.

Comparing explicit ratings of power, there was a significant difference between conditions, t(60)=3.85, p<.001. People in the pride condition reported feeling significantly more powerful (M=4.42, SD=1.18) than people in the neutral condition (M=3.19, SD=1.33). Additionally, although both the pride index and the general positivity index both significantly correlated with explicit power ratings (rs=.755 and .568, respectively), if I regress the explicit power ratings on pride and positive affect simultaneously, as expected, only pride remained a reliable predictor of explicit power, β = 0.685, t = 5.92, p < 0.001, clearly indicating the importance of pride specifically.

Behavioral Mimicry

To see if I could replicate the findings from Study 1, I compared the pride condition with the neutral condition for behavioral mimicry with an independent t-test. As displayed in Figure 2, there was a significant effect for mimicry behavior, t(60)=2.14, p=.037. Proud participants mimicked significantly less (M=0.25, SD=0.13) than neutral participants (M=0.34, SD=.20), replicating the effect found in Study 1. I also found a marginal negative correlation between the intensity of the pride experience and the amount of foot-shaking, r(60)= -.234, p=.068, indicating that the more pride a person felt, the less he subsequently mimicked.

The relationship between explicit power and mimicry was less supported, r(60)= -.197, p=.125, although in the predicted direction. No relationship was found between implicit power (IAT) and mimicry, r(60)= -.113, p=.384.
Mediational Analysis

With this study, I had hoped to be able to determine if the intensity of the pride experience predicted implicit feelings of power, and if this power then predicted mimicry behavior. As it happens, I did not find a significant correlation between the intensity of the pride experience and the level of implicit power, $r(60)=0.09, p=.496$. Therefore, no meditational analysis could be performed. However, I did find a significant relationship between feelings of pride and feelings of explicit power, $r(60)= .755, p<.001$.

Future Task Preferences

In terms of future task preferences, there were a number of significant differences between the pride condition and neutral condition. Those in the pride condition reported significantly higher preferences to do a challenging task ($M=3.61, SD=.99$) than those in the neutral condition ($M=2.97, SD=1.28$), $t(60)=2.22, p=.03$. Additionally, proud participants reported a stronger desire to learn something new for the next task ($M=4.40, SD=0.68$) than did neutral participants ($M=3.90, SD=0.83$), $t(60)=2.56, p=.013$. Finally, people in the pride condition reported a stronger preference to engage in an independent/solo activity ($M=3.57, SD=0.73$) than did those in the neutral condition ($M=3.10, SD=1.01$), $t(59)=2.08, p=.042$.

Discussion

Supporting Study 1’s findings, Study 2 confirmed that pride does lead to decreased mimicry behavior, as compared to a neutral condition. Additionally, people in the pride condition showed higher levels of implicit and explicit power than those in the neutral condition, indicating that one element of the pride experience is an elevation in perceived power. However, I was unable to provide a direct link between the intensity of the pride experience and feelings of implicit power. I did, however, find a strong relationship between feelings of pride and feelings
of explicit power. It is possible that the IAT measure is simply too noisy to find an association.

Additionally, proud people felt up to the challenge of difficult tasks, new activities, and working independently. These findings all support the idea that pride puts one’s focus on self-improvement goals—learning new, challenging information, and working independently—rather than worrying about or attempting to create social bonds with others. This is right in line with work by Carol Dweck about “mindsets” (see Dweck, 2006, for her complete theory). Her research supports the notion that having a “growth mindset”—where effort and hard work matter—motivates students and promotes learning. In contrast, holding a “fixed mindset” fails to motivate—as people believe innate ability and talent are the only things that can lead to success. Perhaps pride is an affective component of the growth mindset, helping to motivate students to learn. Indeed, some work looking at pride in secondary school students has found that students who experienced high levels of pride in an academic course early in the semester performed better on class exams later in the term (Pekrun, Elliot, & Maier, 2009).

Turning back to power, these results support the idea that pride elevates explicit feelings of power. Therefore, it remains likely that power could be the mechanism by which pride alters mimicry behavior. What remains is to find a direct causal link between power and mimicry behavior.
Chapter 4

Investigating a Manipulation of Power

In Study 3, I aimed to test if perceptions of power—and with power, a lack of affiliation goals—are what drive pride’s effect on mimicry behavior, and if outcomes could be altered with a simple manipulation of power. Another way of testing power as a mediator—rather than examining it in the traditional mediation analysis—is to separate the potential mediator and manipulate it independently, in order to determine whether or not the manipulations lead to different outcomes. Since Study 2 could not fully explain the link between power and mimicry, in Study 3 I manipulated emotion (neutral affect versus pride) and then manipulated power separately (low power versus high power), in order to examine if these different levels of power produced significant differences in mimicry behavior.

I hypothesized that individuals experiencing neutral affect would differ in mimicry behavior, depending on power level. High power, neutral participants would likely mimic less than low power, neutral participants—again based on past literature about power, which finds power increases social distance and deters affiliative behavior (Conlon, 2012; Lammers et al., 2012). I predicted that high power, proud participants would mimic less than low power, proud participants and neutral participants. I expected low power, proud participants to be similar to neutral participants, since their power had been removed. If it is the power element that drives the mimicry outcome, those individuals experiencing pride, but then having the power component removed, should not display as much mimicry as proud participants maintaining their high power. If I found these results, I could support the notion that it is the power element of the pride experience that is the mechanism driving the mimicry behavior, resulting in less affiliative behavior.
Method

Participants

Ninety-four participants (69 women; mean age = 18.48, $SD = 0.88$) were randomly assigned to one of four conditions: neutral/low power, neutral/high power, pride/low power, and pride/high power. Each participant received course credit for participating.

Procedure

A similar procedure to that of Studies 1 and 2 was used in Study 3; however, for this study, a confederate (blind to study hypotheses and condition) was present throughout both parts of the experiment—the so-called “Cognitive Processing Study” and the “Language Study.” Additionally, an added task was included at the end of the study, in order to allow a cover story to include a believable power manipulation.

For the “Cognitive Processing Study,” participants completed the same set of tasks that were in the previous studies (mental rotation; dot estimation) individually on the computer. The confederate ostensibly worked on the same set of tasks at her own workstation; she always allowed the participant to finish first. Upon completion, the participant was instructed to go find the experimenter in the back room; it was at this moment that the pride induction (or neutral dialogue) was done privately, so as to keep the confederate in the main lab blind to study condition. Returning to the lab, the participant completed the manipulation check (for both pride, $\alpha = .90$, and positivity, $\alpha = .72$) before the experimenter gave additional instructions.

**Power role manipulation.** Prior to the videotaped interaction, the experimenter explained that both people (the participant and the confederate) would be working together on the last task, which was described as a Tanagrams Puzzle Activity. For that task, participants were told that the researchers were interested in how language use related to problem solving,
and how people operated in assigned roles. The experimenter said that roles would be assigned randomly by computer number\textsuperscript{3}, and explained that she wanted to assign the roles now, so that she could get materials ready beforehand. Depending on condition, participants were assigned to be either the assistant (low power condition) or the supervisor (high power condition). The assistant’s job was to listen to and follow the instructions of the supervisor; the supervisor’s job was to decide the best strategy for solving as many puzzles as possible in a limited amount of time, and to direct the assistant however he or she saw fit. The confederate was always assigned to be the other role, so that each dyad consisted of one assistant and one supervisor.

Having assigned the roles, the participant and confederate then interacted for the five-minute videotaped conversation, during which the confederate shook her foot regularly. To be clear, the assigned roles were irrelevant in this interaction; participants were simply told to talk naturally so that researchers could get a language recording. After five minutes, both individuals completed a questionnaire about the interaction, before working together for five minutes, as supervisor and assistant, to solve the Tanagram puzzles. After that, both the participant and confederate completed a questionnaire about the task, designed to evaluate both participants’ and confederates’ judgments of the puzzle-solving interaction and their partners. The study concluded after this questionnaire.

Results

Manipulation Check

To see if the emotion manipulation was successful, an independent t-test compared those conditions receiving the pride induction against the conditions involving only neutral dialogue.\footnote{A random assignment to power condition was used based on past research (Anderson & Berdahl, 2002). I wanted to use a manipulation that would not affect participants’ emotional states. Therefore, a random assignment seemed preferable to one seemingly based on ability (as participants could feel positively/negatively, and potentially no longer proud).}
Feelings of pride differed across emotion conditions, $t(92)=8.12, p<.001$. Participants who received the pride manipulation felt significantly more proud ($M=5.11, SD=1.03$) than those in neutral conditions ($M=3.36, SD=1.06$).

**Behavioral Mimicry**

To see how both pride as well as power affected mimicry behavior, a 2 (Emotion: Pride, Neutral Affect) by 2 (Power: Low, High) analysis of variance was conducted. As displayed in Figure 3, there was a significant interaction effect (emotion x power) for mimicry behavior, $F(1,90)=7.73, p=.007$. Follow-up tests revealed that for proud participants, those who were assigned to have high power mimicked significantly less than those who were assigned to have low power, $t(48)=3.90, p<.001$. For neutral participants, power had no effect on mimicry behavior, $p=.632$. If we look within power conditions, proud assistants mimicked more than neutral assistants, $t(46)=2.01, p=.05$, and proud supervisors mimicked marginally less than neutral supervisors, $t(46)=1.97, p=.056$.

When analyzed separately by power condition, pride correlated negatively (although marginal) with foot shaking mimicry for supervisors, $r(46)=-.257, p=.084$, but positively with mimicry for assistants, $r(48)=.328, p=.023$. The difference between these correlations was significant, $Z=2.89, p=.004$. Overall, pride and positive affect were moderately correlated, $r(94)=.527, p<.001$. Although there was no relationship between general positive affect and mimicry for supervisors [$r(44)= -.092, p=.544$], there was a relationship for assistants, with more positivity relating to more mimicry behavior, $r(48)=.284, p=.050$. The difference between these correlations was marginally significant, $Z=1.80, p=.07$.

**Evaluation of Work Partnership**

Regarding the puzzle solving task, a number of questions were posed to both participants
and confederates. For participants assigned to be supervisors, reported levels of pride correlated with how much they felt in charge, $r(44)=.345, p=.022$, and how well they thought they performed in their role, $r(46)=.313, p=.034$. For supervisors, pride also correlated with how positively their confederate counterparts judged their problem solving strategy, $r(46)=.376, p=.010$, and marginally correlated with how well confederates thought they worked together, $r(46)=.254, p=.089$. For assistants, pride correlated negatively with how much the confederate felt in charge as supervisor, $r(46)=-.304, p=.036$. That is, proud assistants often acted in ways that caused their confederate supervisor to feel less dominant in her role. No other correlations with reported pride were significant for assistants.

When split by power condition, a couple of significant differences between those experiencing pride and those in a neutral affective state were found. Confederates working with proud supervisors reported more successful strategies ($M=3.39, SD=1.27$) than those working with neutral supervisors ($M=2.65, SD=1.19$), $t(44)=2.04, p=.048$. For assistants, there was a marginally significant difference in perceived dominance. Confederates reported that proud assistants talked more and interrupted more often ($M=2.39, SD=.610$) than did neutral assistants ($M=2.00, SD=.758$), $t(46)=1.97, p=.055$.

**Discussion**

This study showed that by manipulating power—through a simple random assignment of roles—it was possible to alter nonverbal outcomes for people experiencing pride. Although proud participants assigned a high power position still acted in socially distancing ways, mimicking at low levels, proud participants whose power was taken away by receiving a low power assignment acted more affiliatively, mimicking significantly more than their high power counterparts. For neutral participants, power roles had no effect on mimicry behavior. This
finding was unexpected, because if power was the true mediator, alterations in power—regardless of emotion condition—should have affected mimicry behavior, and I failed to find differences between neutral conditions.

One possible explanation takes into consideration this fact—that the power role assignments had no effect in neutral conditions, but led to very important differences between the pride conditions. It would appear that for those feeling neutral, randomly assigning them to be supervisor or assistant had little impact on their state of mind, and possibly on their feelings of implicit power. Considering the fact that participants knew the assignments were strictly random—and not indicative of success or qualifications—being labeled supervisor or assistant could have felt rather inconsequential, failing to produce differences. In contrast, for those experiencing pride, the assignment could have been more meaningful. Perhaps for those feeling proud, the role of supervisor further solidified their perception of high power, whereas the role of assistant felt like a demotion or a stripping of that power. Maybe proud assistants therefore felt the need to affiliate with their supervisors, in order to get back a bit of the power they had lost, or to prove themselves in some way, or to simply make the work relationship more positive. This finding could be in line with past work showing high power supervisors—similar to the proud, high power condition—want to keep distance between themselves and their employees, whereas low power supervisors—perhaps congruent with this study’s proud, low power condition—try to affiliate with others (Kipnis, 1972).

One alternative explanation for this relates to the experience of pride. A typical pride experience involves both positive affect, as well as implicit feelings of power (among other components). If that power is removed, positive affect remains. Perhaps this is why proud, low power individuals showed increased nonconscious mimicry—just as the participants did in the
general positive affect condition in Study 1. The proud, high power participants—whose elevated feelings of power still held—acted consistently with the proud participants in Study 1. The additional correlational analyses also support this explanation; both pride and general positive affect related to more mimicry in the low power condition, whereas only pride had a marginally negative relationship with mimicry in the high power conditions. These findings could suggest that the power element is driving the nonverbal behavior, but cannot account for the neutral findings.

In terms of evaluations of the work experience, it appears that pride—when experienced by a high power individual—can serve to fuel a person’s feeling of power or being in charge, as well as judgments of his or her own performance in the high power role. Those working for these proud supervisors (here, confederates) also rate their strategies for problem solving highly, and perceive the working relationship quite positively. This is in line with the findings of Williams and DeSteno (2009), who found proud participants were rated as more likable and more dominant than neutral participants. However, I did find that if pride is experienced by a low power individual, this can lead to possible difficulties for the dyad, as the high power counterpart reports feeling less in charge when working with a proud assistant—potentially implying that proud individuals tend to act more dominantly regardless of power role assignment. Of course, in the work place, an assistant who shows dominance could either be perceived as out-of-line and in conflict, or perhaps instead be perceived as capable and confident; so, whether this is in fact a detriment to working relationships, or instead a catalyst for an assistant’s promotion within company ranks, is up for debate.

A couple things must be mentioned about this study. First, this paradigm only considers mixed-power dyads, where one person’s high power necessitates the other person’s low power.
These findings cannot speak to how people would act in same-power interactions—how high power individuals would respond to other high power people, or how low power people would act with other low power counterparts. Findings could be similar, in that high power people are aiming to rise in rank, and not affiliate with others, whereas low power people could be more affiliative. It could be that two alphas would be more likely to compete than cooperate. Or, perhaps high power people would try to affiliate with others of their high rank, in attempts to gain from this strong alliance. Future research could investigate same-power dyads.

Lastly, although this study supports the notion that pride, via power, affects nonconscious mimicry, there is no measure of implicit power present. Knowing the results of Study 2, it seems reasonable to assume that implicit power was behind these findings, but here we have conflicting evidence for mediation. Because of the absence of power effects in the neutral conditions, I cannot definitively say that power is the mechanism. Perhaps the power role assignment in the neutral conditions was too weak to produce effects between the high and low power groups; however, for those experiencing pride, the power roles felt more significant—high power assignments solidifying their view of themselves as high-ranking individuals, and low power assignments stripping away their power and leaving them crestfallen. It appears that power is playing some role; however, further investigation is needed to fully understand power’s role—whether it might be that power is a mediator, and it was simply a methodological issue involving the strength of the power manipulation that led to a lack of power differences for the neutral conditions, or whether power is not actually a mediator, and the results of the pride conditions were a fluke. To disambiguate, I ran Studies 4 and 5.
Chapter 5

Examining A Power Manipulation’s Effect on Implicit Power for Neutral Participants

To attempt to clarify whether feelings of implicit power significantly differed among the conditions in Study 3, I ran a set of follow-up studies to see if the role assignments did, in fact, differentially affect feelings of implicit power. I started by investigating the neutral conditions, in order to determine whether or not the power role assignments produced change in implicit power for these participants. I hypothesized that the assignments might not have led to significant differences for neutral individuals—as randomly assigning people to assistant or supervisor does not reflect any actual strengths or weaknesses, and therefore might not impact their feelings of power. If this hypothesis was correct, it would account for the lack of mimicry differences in Study 3, and would potentially support the notion that power is a mediator (and that I failed to successfully manipulate power levels in Study 3).

Method

Participants

Study 4 had 62 participants (34 women; mean age=19.00, SD=1.22), who received course credit for completing the study.

Procedure

To determine whether or not participants in the neutral conditions experienced any difference in implicit power (depending on high or low power role assignment), Study 4 participants did a shortened version of Study 3, experiencing only the neutral mood induction after the “cognitive skills assessment.” Following this, they were then assigned a random power role (assistant or supervisor) for a supposed last task (just as before), before completing the manipulation check (pride: Cronbach’s alpha = .74; positive affect: Cronbach’s alpha = .82), an
explicit power measure, and the power IAT. Once they finished this, the study was concluded, with the excuse that we had fallen behind schedule and thus would not do the tanagrams puzzle task.

**Results**

**Manipulation Checks**

The manipulation check came out as expected; participants in both conditions had comparable levels of pride, (high power: $M=3.99$, $SD=1.06$; low power: $M=3.82$, $SD=1.11$), $t(60)=.624$, $p=.535$, and positive affect, (high power: $M=4.47$, $SD=1.12$; low power: $M=4.40$, $SD=.90$), $t(60)=.292$, $p=.771$.

**Power Measures**

The explicit power measure showed no significant difference between the high power ($M=3.77$, $SD=1.69$) and low power ($M=3.19$, $SD=1.33$) conditions, $t(60)=1.51$, $p=.137$. The power role assignment was not strong enough to differentially affect participants’ explicit power, although it was in the predicted direction. The power IAT also showed no significant difference between the high power ($M=.37$, $SD=.34$) and low power ($M=.33$, $SD=.37$) conditions, $t(60)=.468$, $p=.642$, (although again in the predicted direction), indicating that the random role assignments were not effective at truly manipulating implicit power.

**Discussion**

Here, I found that neutral participants, regardless of power role assignment, have similar levels of implicit and explicit power. Although this power role assignment has been used in past studies (Anderson & Berdahl, 2002), it might only provoke subtle (and here, non-significant) changes in perceptions of power. Indeed, the majority of past studies using power manipulations have used a more elaborate assignment procedure—beyond telling participants that they have
been randomly assigned to be the leader or the assistant. Instead, many use ostensible “Leadership Questionnaires”—fake questionnaires that give legitimacy to the power assignments (with participants believing that they have been assigned to be high or low power according to their leadership qualifications, relative to their partner); these, as one might imagine, are likely more impactful, as the assignment seemingly reflects one’s true standing in the dyad (Galinsky et al., 2003; Richeson & Ambady, 2003; Smith & Bargh, 2008).

Given these findings, it is possible to speculate about the lack of mimicry differences between the two neutral conditions in Study 3. It would appear that perhaps our neutral participants in that study—whether they were assigned to have high or low power—mimicked roughly the same across conditions because the power role assignment was ineffective at actually altering their perceptions of power (either implicitly or explicitly), and therefore their mimicry behavior was also unaltered. If implicit power is driving mimicry, we would not expect to find differences in mimicry unless there were differences in power. This study suggests there were not significant power differences between neutral assistants and neutral supervisors, which could be in line with this explanation for Study 3’s mimicry results. What remains is to investigate the pride conditions of Study 3, to see if implicit power was actually different between power conditions, accounting for the mimicry differences found between those conditions.
Chapter 6

Examining A Power Manipulation’s Effect on Implicit Power for Proud Participants

Knowing that there were no implicit power differences between neutral supervisors and assistants does not go against the argument that implicit power is the mechanism driving pride’s effect on mimicry. What needs to be investigated is whether or not there are implicit power differences for proud assistants versus proud supervisors. If so, this would explain the discrepant mimicry results for Study 3’s pride conditions. If supervisors feel significantly more powerful than assistants, this could lead to their decreased mimicry (and assistants’ increased mimicry). It is possible that experiencing the pride induction, and then having the power induction, makes the power role more impactful. For instance, if a person is feeling proud and then told she will be a supervisor, this might reinforce and legitimize that feeling of confidence and power. If, in contrast, a person is feeling proud, but then told she will be assisting someone else in a task, this could result in her feeling stripped of her power, and ultimately feeling more powerless, than someone who was in a neutral state. In this way, although the neutral conditions had no differences in implicit power, it is possible that I could find a difference between the pride conditions. If subsequently, I saw the same differences in mimicry behavior, Study 5 would support the hypothesis that pride’s effect on mimicry normally operates via implicit power, and when the power is taken away, so is the effect on mimicry. I hypothesized that I would find elevated implicit and explicit power in the high power condition as compared to the low power condition, and that I would replicate the mimicry results of Study 3, finding high power participants mimicked significantly less than low power participants.

Method

Participants

46
Study 5 involved 56 participants (38 women; mean age=19.0, $SD=1.39$), who received course credit for taking part in the study. One participant’s computer malfunctioned before the IAT, so her data could not be included for that analysis.

**Procedure**

Participants did a shortened version of Study 3, experiencing only the pride mood induction after the “cognitive skills assessment.” Following this, they were then assigned a random power role (assistant or supervisor) for a supposed last task (just as before), before completing the manipulation check (pride: Cronbach’s alpha = .67; positive affect: Cronbach’s alpha = .55), an explicit power measure, and the power IAT. Participants engaged in the five minute conversation, filled out the same evaluation of the interaction, and then were given the same excuse as Study 4—that we had fallen behind schedule and thus would not do the tanagrams puzzle task.

**Results**

**Manipulation Checks**

All manipulation checks came out as expected; participants in both conditions felt similar levels of pride (high power: $M=4.93$, $SD=1.03$; low power: $M=5.12$, $SD=.91$), $t(54)=.742, p=.461$, and positive affect, (high power: $M=4.91$, $SD=.66$; low power: $M=5.07$, $SD=.88$), $t(54)=.774, p=.442$.

**Power Measures**

The explicit power measure showed no significant difference between the high power ($M=3.86$, $SD=1.48$) and low power ($M=4.33$, $SD=1.64$) conditions, $t(54)=1.13, p=.264$. This indicates that the power role assignment was not strong enough to alter participants’ explicit power. The power IAT also showed no significant difference between the high power ($M=.29$, $SD=.24$) and low power ($M=.24$, $SD=.20$) conditions, $t(54)=.24, p=.811$.
and low power ($M=.30$, $SD=.42$) conditions, $t(53)=.072$, $p=.943$, indicating that the random role assignments were not impactful enough to cause changes in implicit power. These findings are not in line with the proposed argument that proud assistants and supervisors might be differentially affected by their power role assignments (with assistants feeling significantly less power than supervisors). I did find a marginal positive correlation between pride index and IAT scores, $r(54)=.243$, $p=.076$. This would indicate that as feelings of naturally occurring pride increase, so do feelings of implicit power—supporting the overarching hypothesis that pride increases power.

**Behavioral Mimicry**

In this study, I also hoped to replicate the mimicry findings of Study 3—where proud assistants mimicked significantly more than proud supervisors. However, an independent samples t-test showed no significant differences between conditions, $t(54)=.472$, $p=.639$. As displayed in Figure 4, and contrary to predictions, proud assistants did not exhibit a higher rate of mimicry ($M=.24$, $SD=.17$) than proud supervisors ($M=.26$, $SD=.14$). In addition, pride did not correlate with foot shaking behavior, $r(54)=.086$, $p=.527$, although this is likely due to the restriction in range (as all participants were induced to feel proud).

**Discussion**

This study failed to replicate the findings of Study 3; instead, it found no differences between the mimicry behavior of proud supervisors versus proud assistants. Additionally, it found no differences between the implicit or explicit power of supervisors and assistants. This leaves several questions still unanswered.

I had expected to find a difference for both the IAT and mimicry behavior—with higher feelings of implicit power and a decreased amount of mimicry in the high power condition. This
would have provided clear support for the argument that the typical pride experience increases implicit power, which in turn reduces mimicry behavior, and—when power is manipulated independently—the power assignment can turn pride’s effect on or off. However, along with Study 4, these findings suggest that the power role assignment had no real effect on either explicit or implicit feelings of power, for either neutral or proud individuals. Running a meta-analysis on both studies shows a marginal effect of power role assignment on explicit power, Combined $Z=1.87, p=.06$, with an average effect size ($r$) of only .03. This further supports the notion that the power manipulation was very weak, and this could be why I failed to find differences. Additionally, running statistical power analyses for both Studies 4 and 5 showed very low observed power (32% and 20%, respectively). This would indicate that—for such a small effect—the studies have a low chance of correctly rejecting the null, if it is false. Future studies would benefit from a stronger power manipulation, and perhaps larger sample sizes.

Furthermore, the interesting finding of Study 3—that proud, high power people mimic less than proud, low power people—was not replicated, and therefore is brought into question. It remains unclear as to whether or not high and low power roles differentially affect mimicry, and whether or not feelings of implicit power could be shown to drive mimicry differences. Study 5 showed no difference in implicit power or mimicry—indicating that perhaps power could still play a role in nonverbal behavior, as we saw no differences in mimicry behavior, either, and would not expect to given the similar levels of implicit power. A future study—utilizing a more impactful power role assignment procedure—could help clarify whether or not implicit power is a mechanism operating to affect mimicry.
Chapter 7

General Discussion of the Studies

Taken together, this set of studies tried to illuminate pride’s effect on nonverbal behavior, as well as one of the mechanisms by which it affects this behavior, but results were somewhat unclear. The pride experience decreased affiliative nonconscious mimicry behavior, as compared to both neutral and positive affect. This finding held across studies, with pride conditions (except for the low power pride condition in Study 3) always exhibiting lower levels of mimicry ($M$s range: .21 - .26) than ever seen in neutral ($M$s range: .27 - .35) and positive affect ($M$= .48) conditions. Using Stouffer’s meta-analytic procedure, I compared the pride conditions versus neutral conditions for Studies 1, 2, and 3. Leaving out what appears to be unreplicable data—the pride, low power condition in Study 3—I combined the $p$-values. Results showed that pride’s attenuating effect on mimicry behavior was reliable, $Z$=3.39, $p$=.0007.\(^4\) One can conclude that pride’s effect on mimicry is well-supported by this research.

Pride’s effect was hypothesized to operate via changes in implicit power. I expected that the intensity of the pride experience would predict higher levels of implicit power, which in turn would decrease affiliative nonconscious mimicry. However, although I did find support for pride increasing implicit feelings of power, I did not find replicable results showing the effects of power on mimicry. In Study 3, it appeared that high power diminished mimicry behavior, and low power increased it; however, Study 5 did not find differences between high and low power conditions, in terms of mimicry behavior.

That said, Study 5 also did not find differences in implicit power between conditions, so

\(^4\) When leaving in the pride, low power condition of Study 3, Stouffer’s method still resulted in a marginal effect of pride on mimicry, $Z$=1.90, $p$=.057.
the lack of mimicry results might still make sense—since only differences in implicit power should inspire differences in mimicry. It would be useful to run further studies that utilize a more impactful power role assignment, in order to see if significant differences in implicit power would be seen to relate to significant differences in mimicry behavior. Past studies have used similar role assignment procedures, but with cover stories that explain an individual’s role is determined based on leadership and work experiences (e.g., Fong & Tiedens, 2002; Galinsky et al., 2003). When the role implies actual power and higher leadership ability as compared to another (rather than a simple random assignment), perhaps this induction might more strongly manipulate a person’s implicit power; with a more impactful manipulation, it seems possible we might see the predicted differences between high and low power positions.

As mentioned previously, pride’s negative effect on affiliative behavior is likely linked to its motivational impact on social distancing. When feeling proud, individuals want to further their personal achievements and climb the rungs of the social hierarchy; they are not motivated to affiliate, but rather to propel themselves upward in the social world. In terms of normal social interaction (such as the studies’ 5-minute conversations), proud individuals do not work to form social bonds with others, and this is illustrated by a decrease in affiliative mimicry behavior.

However, when pursuing cooperative tasks (like the puzzle solving activity), pride can help a person feel in charge and capable in her high power role, and can also inspire a low power individual to act more dominantly. Additionally, people working under proud supervisors think more highly of the supervisors’ work strategies than those working for supervisors lacking pride. Taking these points into consideration, it would seem that pride—although leading to decreases in affiliative nonverbal behavior—does serve some adaptive advantages for working relationships. Although proud individuals may not strive to form social bonds, they do seem to
strive to achieve successful work-related outcomes, and succeed at doing so.

This set of studies helps reinforce the notion that discrete positive emotions should be treated as unique experiences, and not simply categorized by their positive valence. In some instances, like Study 1, specific emotion experiences—like pride—can operate in ways counter to experiences of simple positive affect. The field will do well to remember this, as simply comparing positive to negative affect leaves out a huge portion of the picture. When one considers the function of different emotions, it seems obvious to consider them independently.

Although ultimately serving a useful purpose, studies like these, that investigate discrete emotions, face the issue that an emotion’s unique effect might seem due simply to the valence of the emotion. Unfortunately, it can at times be difficult to show indisputable support for a unique versus a valance effect. Because pride is such a positive emotion to experience, it cannot be completely separated from its positive valence. Since pride and positive affect correlate very strongly, it can also be hard to do mediation analyses to lend support for pride’s unique effects. In the current analyses, although I had hoped to look at pride’s effect on other variables—such as participants’ self-reported anxiety during the five-minute interactions, and how smoothly they felt the interaction went—oftentimes these findings were too difficult to interpret.

For instance, in four studies, I asked participants to report how anxious (and alternatively, how relaxed) they felt during the five-minute interaction with the confederate. I combined these ratings into an anxiety index (reverse scoring ratings of “relaxed”). Using Stouffer’s meta-analytic procedure, I found a significant negative relationship between feelings of pride and the anxiety index, Combined $Z=2.61, p=.009$ (unweighted mean $r = -.23$, weighted mean $r = -.15$), indicating that the more pride a person felt, the less anxiety she experienced. One could perhaps argue that pride likely lessens anxiety—helping a person cope with social situations, either due
to her increased confidence or maybe her lack of concern over the interaction. I tested the link between reported confidence and the anxiety index, again using a meta-analysis, and found a significant effect, Combined $Z=2.88, p=.004$ (unweighted mean $r = -.23$, weighted mean $r = -.15$), which suggests that confidence might be the driving factor, and should be investigated in future analyses.

This is not to say that the second explanation—the lack of concern about affiliation—couldn’t be possible. If, as mentioned previously, proud individuals feel more powerful, and less dependent on other people, it seems likely that—similar to results found in the power literature—pride makes people less concerned with affiliation (as there is no need to “get in good” with someone), and therefore attenuates feelings of anxiety. As I did not have any data about people’s desire to affiliate, or their concern about affiliating, I could not look into this further.

Unfortunately, what complicates either explanation is that when I ran a meta-analysis on feelings of positive affect and feelings of anxiety, I found very similar results, Combined $Z=2.84, p=.005$ (unweighted mean $r = -.29$, weighted mean $r = -.16$), with higher ratings of positive affect related to lower feelings of anxiety. Therefore, it remains an open question whether or not it is specifically pride that leads people to feel more comfortable in their interactions, or if any positively-valenced emotional experience will show the same relationship. I would hypothesize that it is pride specifically, but this would need to be investigated in future studies.

**Individual Differences**

There are several individual differences that could be at play; however, given my data, it is difficult to draw strong conclusions about them. First is the issue of gender differences. As the number of women far exceeded the number of men in each sample, gender differences for individual studies were not investigated independently. However, I did perform Stouffer’s meta-
analyses for the main dependent variables, to see if—across conditions and across studies—there were any significant differences between men and women. For self-reported pride, there was a marginal difference between men and women, with men reporting higher levels of pride than women, Combined $Z=1.84$, $p=.07$ (unweighted mean $r=.100$, weighted mean $r=.104$). This effect was driven by a difference in self-reported confidence, Combined $Z=3.15$, $p=.002$ (unweighted mean $r=.174$, weighted mean $r=.175$), with men reporting higher confidence than women. The only other effect nearing significance was for explicit power, where again men reported marginally higher feelings of power than did women, Combined $Z=1.79$, $p=.073$ (unweighted mean $r=.135$, weighted mean $r=.132$). Analyses for implicit power, positive affect, and mimicry behavior were not significant, $ps >.32$.

These gender findings are not too surprising. People often believe that men experience more pride than women (Plant, Hyde, Keltner, & Devine, 2000), but researchers have found no differences in pride expressions (Alessandri & Lewis, 1993; Chaplin & Aldao, 2013) or on authentic pride scales—although men scored higher on hubristic pride (Tracy & Robins, 2007b). In terms of confidence, authentic pride is strongly linked with self-esteem (Orth et al., 2010; Tangney, Stuewig, & Mashek, 2007). Studies, however, generally fail to find gender differences for self-esteem, at least in terms of academic pursuits (Else-Quest, Higgins, Allison, & Morton, 2012; Gentile, Grabe, Dolan-Pascoe, Twenge, Wells, & Maitino, 2009). In these studies, I asked participants how they were feeling at the present moment, in terms of pride, accomplishment, confidence, and power; the small (and marginal) gender differences here suggest that men in these studies experienced slightly elevated levels of pride, confidence, and power, as compared to women. However, it should be noted again that women far outnumbered men in these samples.
The second issue that I had also wished to investigate was cultural differences. Because all of the samples had an exceedingly high number of Caucasian participants, as compared to any other group, no conclusions can be made at this time. I will, however, speculate about cultural differences later.

Lastly, although I did not investigate any of these individual personality differences, there are numerous traits that could be at play when it comes to the experience of pride and power. Participants come into the lab with their own unique characteristics, and in the future, it would be productive to determine how individuals differ in their responses to pride and power, and subsequent behavior. Things like personality dominance (Wiggins, Trapnell, & Phillips, 1988), independent versus interdependent self-construal (e.g., Markus & Kitayama, 1991; Singelis, 1994), power motivation (as a personality trait; e.g., Winter, 1973; Veroff, 1964), self-esteem, self-efficacy, narcissism, arrogance, anxiety, and public self-consciousness might all affect individual outcomes.

Specifically, it seems useful to examine how arrogance might relate to behavior. As mentioned in the introduction, many researchers posit that there are two facets of pride: authentic and hubristic. Authentic pride is supposedly related to effort and hard work, and is considered a “genuine” emotional experience, whereas hubristic pride is believed to relate to innate ability and be “excessive” in nature. There is some debate as to whether or not pride really is made up of these two facets, and at the very least, there is speculation that the measure with which people determine hubristic pride is not appropriate. I personally support the idea of one emotion of pride—that can become excessive, to the point where even events unrelated to the self drive proud feelings. So, I would not label this experience hubristic pride, but rather simply pride that is excessive. It seems possible that individuals who tend to be excessively prideful might mimic
less than other people, due to their engrained grandiose sense of self-worth. For individuals whose focus is on the self and how great they are, I would expect an exacerbated decrease in mimicry, as compared to those simply feeling pride in the moment.

However, there is an alternative hypothesis. When “hubristic” pride is measured in research, the scale used involves participants rating how they currently feel for the following terms: *arrogant, conceited, egotistical, pompous, smug, snobbish, stuck-up* (Tracy & Robins, 2007a). First, it should be noted that there is some disagreement as to whether or not this is a valid measure. Some researchers, myself included, would argue that this scale does not really assess internal emotional states, but rather how people think others might perceive them. That said, some research has found a few interesting correlations between these labels and other variables. Ratings on hubristic pride correlated negatively with self-esteem, negatively with viewing the self as meriting success, and negatively with genuineness. Hubristic pride correlated positively with external attributions of success, fear of negative social evaluation, and public self-consciousness (Holbrook, Piazza, & Fessler, 2014a; 2014b). This might indicate that those who score high for "hubristic pride" are actually not experiencing a positive emotional state, and are not even experiencing excessive pride in themselves. Also, if these findings are true, it could be possible that people who tend to ascribe these words to themselves might actually mimic more, perhaps driven by their fear of negative social evaluation and their self-consciousness. Future research would have to investigate this topic. One study has examined narcissism’s effect on mimicry, finding that individuals high in narcissism tend to mimic more than non-narcissists, but only for high-status others, due to their desire to be liked by important people (Ashton-James & Levordashka, 2013). People driven by a fear of negative social evaluation would likely show similar results to those driven by a desire for positive evaluation.
(although I would hypothesize there would not be a difference between low- and high-status others).

**Possible Alternative Mechanism Linking Pride with Mimicry**

It remains somewhat unclear as to whether or not power plays a role in pride’s effect on mimicry. Pride and power are intertwined in terms of outcomes, but one is not necessarily causally related to the other. Pride can certainly lead to power – a person has accomplished something of value and perhaps then feels powerful (and even gains official power within the social hierarchy, such as a promotion). Inversely, power can lead to pride -- maybe being the one in charge makes an individual feel accomplished (whether or not she should). However, it is not necessary to have power in order to feel proud – a person could feel pride in her progress or improvement, even if she has a ways to go in terms of mastery/promotion. Alternatively, a person does not need to feel pride when she has power. With this in mind, work remains to be done on the relationship of these two constructs.

Regardless of whether or not power is found to be a significant predictor, I would posit an alternative (or additional) mechanism affecting mimicry: attentional focus. Pride, as a self-conscious or self-focused emotion, could be turning people’s attention inward—focusing on themselves and their personal achievement goals—and reducing their focus outward (Izard, 1977; Simon-Thomas et al., 2012; Tracy & Robins, 2004a, 2007b). Proud people could thus be less focused on, or even altogether missing out on social cues in their interactions, as evidenced by a reduction in nonconscious mimicry behaviors. Surprisingly, no research to date has investigated the exact nature of pride’s self-focus element, but rather simply use the “self-focused emotion” label without empirical support. In future studies, I will examine self-focus as a driving force that links pride with reduced mimicry.
In line with this idea, van Baaren and colleagues (2003) found that people primed to hold an independent self-construal—defining the self in terms of unique personal traits—mimicked less than people endorsing an interdependent self-construal, with its focus on the self in terms of its relationships. Conversely, being mimicked—as well as being instructed to mimic—both lead to an increase in feelings of interdependence and social connection (Ashton-James, van Baaren, Chartrand, Decety, & Karremans, 2007; Redeker, Stel, & Mastop, 2011). If pride is bringing the focus to the self and one’s own distinctiveness, it seems likely that pride motivates an independent self-construal, and this could account for the decrease in mimicry behavior. In related literature, power has been linked to independent self-construal (Lee & Tiedens, 2001) and negatively correlated with perspective-taking (Galinsky, Magee, Inesi, & Gruenfeld, 2006), strengthening the argument that people feeling pride—and with it, higher power—might be more self-focused and therefore less likely to notice and mimic the actions of others.

Conclusions and Future Directions

Pride can serve different functions for individuals. As shown in previous work, it can motivate perseverance on tasks (Williams & DeSteno, 2008) and inspire dominant, yet likable behavior (Williams & DeSteno, 2009). With the current studies, I show that pride can help people’s working relationships—making people feel more in charge and more successful in their abilities and endeavors. It also leads other people to value the proud individual’s strategies and their work partnership. In addition, pride can inspire people to want to try new things, attempt challenging tasks, and go off on their own. Pride makes people feel powerful, confident, and motivated.

Perhaps in line with these findings, pride reduces affiliative nonverbal behavior. As pride’s function is to promote self-improvement and self-advancement, it appears that those
experiencing pride are not motivated to affiliate in the social sphere, and therefore do not exhibit affiliative mimicry behavior. This differs uniquely from positive affect, which increases mimicry. However, it should be noted that pride’s reduction of mimicry does not impact how they are perceived by others, in terms of friendliness or likability. Whether proud individuals make up for the lack of affiliative nonverbals in other ways remains to be investigated, but it seems possible that they make up for this deficit without effort.

Future work needs to continue to investigate what mechanisms are at play behind pride’s effect on nonverbal behavior. Although pride does increase feelings of power, I have yet to find a direct link between power and mimicry, but will attempt to use a stronger power manipulation to continue the investigation. Additionally, it seems possible that self-focus might be a stronger predictor of nonverbal behavior, and I will consider this in future studies.

So far, I have only researched pride in one context: when an individual’s personal efforts and abilities bring about success and acclaim. There are numerous research paths to consider. First, it would be beneficial to consider pride for the self as compared to pride for one’s group or team. How are these experiences similar? How are they different? It would be interesting to see if pride for a team actually increases mimicry of one’s teammates (and possibly decreases mimicry of opposing team members). A team needs to be a cohesive unit, and mimicry could aid in this regard, serving the function of strengthening social bonds. Furthermore, the focus should be on the success of the team, rather than the individual, which might mean proud teammates are focused on the team in addition to themselves—and are more likely to be picking up on social cues like mimicry (in line with work on interdependent self-construals increasing mimicry: van Baaren et al., 2003). Adding even further support to this hypothesis, past research has shown that
similarity (Guéguen & Martin, 2009) and group membership (Yabar, Johnston, Miles, & Peace, 2006) increase mimicry behavior. If teammates feel a sense of shared membership, it seems very likely that they would mimic teammates more, and mimic opposing team members less. Similarly, it stands to reason that fans of particular teams might use mimicry with other fans, but not with opposing teams’ fans.

Along a similar line, I would like to investigate how pride for the self and pride for the group affect competitive and cooperative behavior. It seems possible that they might have different outcomes, depending on whom the competition/cooperation is with. Proud individuals are likely going to act more competitively across the board, due to their focus on climbing the ranks of the hierarchy. In contrast, it seems possible that proud team members will cooperate with the team (again, putting the team’s advancement first), while competing with opposing teams. Depending on whether the pride is due to an individual’s achievements or the team’s, this will likely determine the outcomes. In line with this idea, Tyler and Blader (2001; 2003) have considered pride in their group engagement model—where pride for the group (in terms of pride due to the positive evaluation of its social status) is thought to strengthen identity with the group, and therefore increase one’s engagement in that group. This model would suggest that pride for the team could serve to strengthen team bonds.

Secondly, it seems fitting to further investigate pride within the business realm. As pride is a motivator of self-advancement, and helps us understand our rank in the social hierarchy, it seems of utmost important in the workplace, where most often, a business hierarchy is established, and workers aim for promotions and the resources that come with them. How pride might help in negotiation, collaborative work projects, and competing for promotions could be examined.
Some researchers have already begun to consider how emotions might play a role in negotiation (Overbeck, Neale, & Govan, 2010; Van Kleef, De Dreu, Pietroni, & Manstead, 2006), but have only investigated the anger and happiness of the counterparts. As pride seems a likely emotion at play in a negotiation context (either experienced by an individual or her counterpart), its examination would further the literature. Indeed, numerous studies have considered power’s role in negotiation: how perceived differences in power affect outcomes (e.g., Wolfe & McGinn, 2005); how power affects negotiation initiation and first offers (Magee, Galinsky, & Gruenfeld, 2007); how power affects a person’s reactions to the emotional expressions of the other (Van Kleef et al., 2006); how differences in coercive power affect negotiation (e.g., de Dreu, 1995); how gender and power interact to affect negotiation (e.g., Nelson, Bronstein, Shacham, & Ben-Ari, 2015; Watson, 1994); how power and aspiration affect negotiation interactions (Mannix & Neale, 1993); and how emotion and social power interact to affect focus, concessions, and claimed value (Overbeck et al., 2010; Van Kleef et al., 2006). As pride seems to increase feelings of power, it would be interesting to involve them both in studies on negotiation, and see how they might compare and contrast.

In terms of collaboration and promotion, the current studies—and previous studies out of my lab—suggest that pride can serve positive functions for the individual and his work groups. Do these findings hold in a real world work setting? How does pride affect behavior in a peer group (equal power), as well as in a hierarchical group (unequal power)? Does pride really seem to motivate perseverance at work, and can this in turn lead to promotion? Are proud bosses better liked? Do proud subordinates get noticed for their more assertive, dominant behavior and get promoted?
Lastly, I would like to consider how the pride experience differs across cultures. Pride is a very unique emotional state. Although it is a positive emotion, many people see it as a negative, due to its confusion with hubris. Pride and social acclaim—when well-deserved—seem like perfectly reasonable and commendable experiences. However, if it crosses the line into hubris, or excessive self-congratulations—when a person turns from genuinely proud to arrogant—this is when it is a negative. Or, when observers mistake genuine pride for hubris, negative effects may follow. Unfortunately, there is a blurred boundary between the two, and the divide is often influenced by gender and culture. For many people, feeling proud can be confused with being cocky, and wanting to share one’s accomplishments is seen as bragging. Depending on culture, individuals might be encouraged to stand out—like in individualistic, independent cultures, such as the US—or encouraged to be part of a harmonious social sphere—like in collectivist, interdependent societies, such as Japan (Markus & Kitayama, 1991; 1998).

Accordingly, different cultures value self-criticism (as a way to promote behaviors in line with social expectations and standards; Compos, Keltner, Beck, Gonzaga, & John, 2007; Heine et al., 2001; Heine, Lehman, Markus, & Kitayama, 1999) and view pride as a negative (Eid & Diener, 2001; Rodriguez et al., 2000; Stipek, 1998).

One study found that in Japan, positive, socially disengaging emotions, like pride, are experienced less often and are less important to one’s well-being than are positive, socially engaging emotions, like “friendly feelings” (Kitayama, Mesquita, & Karasawa, 2006). The opposite was true for American subjects. Similarly, in a study involving nearly 1,000 American and Japanese college students, researchers found that reports of general positive feelings (elated, calm, relaxed) were most strongly linked to reports of “socially disengaging emotions” (proud, superior) in US, but were most closely linked to “socially engaging emotions” (friendly feelings,
respect) in Japan (Kitayama, Markus, & Kurokawa, 2000). In a different large study comparing Japanese, Korean, and American children, researchers found significant differences in mean levels of pride, with American children scoring the highest (Furukawa, Tangney, & Higashibara, 2012). It seems likely, then, that the pride experience would be very different in different cultural contexts.

Beyond large-scale cultural differences, some of the perhaps more subtle differences in display rules—what is and is not appropriate social behavior within a given society—likely affect how pride is expressed. Even in individualistic societies pride is not always encouraged, as it is often misunderstood as arrogance, or it can make others feel negatively about themselves in comparison. As one example, even young children (\(M=53.8\) months) experiencing a victory over a younger sibling suppressed or masked their expressions of pride, likely in an attempt to avoid both perceptions of arrogance and hurting their siblings’ feelings (Reissland & Harris, 1991). The complexity of the pride experience—that it often comes about when one person wins and another loses—and that one person’s pride is often another’s shame, makes it a difficult emotion to express at times.

To conclude, this work serves as an important reminder of two things: (1) that pride is not always a negative term, but can actually be a beneficial emotion to experience; and (2) that pride—and other discrete emotional states—should be studied independently to fully understand the similarities and differences among different emotional experiences. There is much more to research and understand about the uniqueness of the pride experience, and when it can serve important functions for individuals.
References


Figure 1. Study 1: Mean proportion of time spent mimicking target other as a function of emotion condition. Error bars indicate ± 1 standard error.
Figure 2. Study 2: Mean proportion of time spent mimicking target other as a function of emotion condition. Error bars indicate ± 1 standard error.
Figure 3. Study 3: Mean proportion of time spent mimicking target other as a function of emotion x power condition. Error bars indicate ± 1 standard error.
Figure 4. Study 5: Mean proportion of time spent mimicking target other as a function of power condition. Error bars indicate ± 1 standard error.
Appendix

Pride Feedback Sheet

PARTICIPANT 59233014892

YOU ARE HERE

RAW SCORE: 124/147 PERCENTILE: 94 WEIGHTED MEAN: 128