The Prototypical Pride Expression: Development of a Nonverbal Behavior Coding System

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This research provides a systematic analysis of the nonverbal expression of pride. Study 1 manipulated behavioral movements relevant to pride (e.g., expanded posture and head tilt) to identify the most prototypical pride expression and determine the specific components that are necessary and sufficient for reliable recognition. Studies 2 and 3 tested whether the 2 conceptually and empirically distinct facets of pride ("authentic" and "hubristic"; J. L. Tracy & R. W. Robins, 2007a) are associated with distinct nonverbal expressions. Results showed that neither the prototypical pride expression nor several recognizable variants were differentially associated with either facet, suggesting that for the most part, authentic and hubristic pride share the same signal. Together these studies indicate that pride can be reliably assessed from nonverbal behaviors. In the Appendix, the authors provide guidelines for a pride behavioral coding scheme, akin to the Emotion Facial Action Coding System (EMFACS; P. Ekman & E. Rosenberg, 1997) for assessing "basic" emotions from observable nonverbal behaviors.

Keywords: pride, nonverbal expression, coding system, self-conscious emotion, emotion recognition

On March 2, 2004, John Kerry won nine U.S. state primaries, ensuring that he would be the next Democratic candidate for U.S. president. That night, as the results poured in and crowds around him cheered, Kerry held his head high, tilting it back slightly. He expanded his chest and raised his arms above his head, hands in fists. He gazed up and revealed a small smile.

Did the millions who watched Kerry live and on TV know what emotion he was feeling? What if these observers did not know what Kerry had just accomplished and could not see the adoring crowds? According to many emotion researchers, the answer is no: Kerry's emotional state could not be effectively decoded solely on the basis of his nonverbal behavior. Despite strong evidence for distinct nonverbal expressions for five negative emotions (anger, disgust, fear, sadness, and surprise), all positive emotions have been assumed to share a single nonverbal signal: the smile.

However, a growing body of research suggests that pride, a positive "self-conscious" emotion, may have a distinct expression. The pride display is reliably recognized and distinguished from similar emotions (e.g., happiness) using forced-choice and more open-ended methods, by adults and children as young as 4 years old (Tracy & Robins, 2004a; Tracy, Robins, & Lagattuta, 2005).

Pride recognition generalizes across cultures, including a highly isolated, preliterate tribal culture in Burkina Faso, where individuals with virtually no exposure to the Western world were shown to accurately identify the expression (Tracy & Robins, 2007b). In all of these studies, pride recognition rates were comparable to recognition rates for the previously established emotion expressions, and like these emotions, pride can be recognized from a single snapshot image very quickly and efficiently (Tracy & Robins, 2007c). Moreover, the pride display has been documented in spontaneous nonverbal behaviors shown in response to a pride-eliciting event, such as successful completion of a task (Belsky & Domitrovich, 1997; Lewis, Alessandri, & Sullivan, 1992; Stipek, Recchia, & McClintic, 1992; Weisfeld & Beresford, 1982) and victory in the Olympic Games (Tracy & Matsumoto, 2007).

Yet pride is not typically included among the small set of emotions thought to have distinct nonverbal expressions, perhaps because its precise components have not yet been documented in the same way that the precise muscular movements have been documented for the so-called "basic" emotion expressions (i.e., anger, contempt, disgust, fear, happiness, sadness, and surprise). Izard's (1979) maximally discriminative facial movement coding system and Emotion Facial Action Coding System (EMFACS; Ekman & Rosenberg, 1997), based on Ekman and Friesen's (1978) widely used Facial Action Coding System (FACS), provide elaborate behavioral coding schemes for assessing each of these emotions from nonverbal behaviors. FACS is a reliable, comprehensive, anatomically based system that delineates every facial muscle movement (i.e., "action unit") relevant to the expression of each basic emotion. Along with the EMFACS (Ekman & Rosenberg, 1997)—a guideline articulating which action units are required for each emotion expression—FACS has been used to produce a wide range of important findings. To take just a few examples, FACS has allowed researchers to determine the behavioral signs of deception, which emotions are shown in infancy, and similarities

between human and nonhuman primate emotion expressions (Ekman & Rosenberg, 1997; Keltner & Ekman, 2003). Above all else, FACS has become a fundamental part of emotion research because it provides a tool for assessing what a person is feeling without relying on self-report.

However, FACS does not incorporate action units for emotions like pride, which has a complex expression that involves the body as well as the face and is elicited by complex self-evaluative processes. As a self-conscious, or "social," emotion, pride (along with embarrassment, shame, and guilt) requires the capacity to reflect on one's thoughts and feelings and form stable self-representations. Self-conscious emotions are elicited when individuals direct attentional focus toward their self-representations and evaluate the extent to which emotion-eliciting events are congruent with their goals for their identity (Buss, 2001; Tangney & Dearing, 2002; Tracy & Robins, 2004b). Possibly because of these requisite complex cognitive processes, self-conscious emotions emerge later in development than the basic emotions and are thought to be unique to humans and possibly the great apes (Hart & Karmel, 1996; Lewis et al., 1992). They play a crucial role in status seeking, dominance, and other fundamental social behaviors and thus facilitate survival in a complex social world (Keltner & Buswell, 1997; Tracy & Robins, 2004b). Interestingly, all three known self-conscious emotion nonverbal expressions (i.e., expressions of embarrassment, pride, and shame) can only be recognized when behaviors other than facial muscle movements are combined with facial expressions. For example, the shame expression seems to include a downward head tilt, (Izard, 1971; Keltner, 1995) and pride seems to include an expanded posture (Tracy & Robins, 2004a).

The recent evidence for a cross-cultural pride expression suggests that pride might merit inclusion in the class of emotions thought to be universal and adaptive. In fact, pride might have evolved to motivate a wide range of fundamental social behaviors. Pleasurable subjective feelings of pride reinforce prosocial behaviors such as achievement, continued task performance, and caregiving (Hart & Matsuba, 2007; Herrald & Tomaka, 2002; Stipek, 1983; Weiner, 1985; Williams & DeSteno, 2006) and contribute to the development of a genuine and deep-rooted sense of self-esteem, which in turn informs individuals of their social value (Brown & Marshall, 2001; Leary, Tambor, Terdal, & Downs, 1995; Tracy & Robins, 2007a). At the same time, the nonverbal expression of pride may serve a complementary adaptive function, signaling an individual's success to others and thereby informing onlookers that the proud individual merits increased status and acceptance (Tracy & Robins, 2007d).

Thus, it may be time to expand the list of emotions that can reliably be assessed from observable nonverbal behaviors. However, before we add pride to this list, several questions must be addressed.

What Are the Precise Components of the Pride Expression?

The extant research does not allow us to conclude that the previously identified version of the pride expression (Tracy & Robins, 2004a) is the best recognized, most prototypical pride expression. Although emotion expressions are typically viewed as discrete categories (i.e., a particular expression either is or is not a

particular emotion), they may be better conceptualized as prototypical categories (i.e., expressions vary in the degree to which they are prototypical of an emotion). Although highly prototypical expressions of pride may be rare in everyday life, it is important to identify the precise features that constitute the prototypical expression (i.e., the expression that generates the highest recognition rate), as well as the features that are necessary and sufficient for reliable recognition. Previous research on pride has demonstrated that several features are important for recognition (expanded posture, head tilt back, and small smile), but these studies did not include control conditions that would allow us to determine whether each feature is necessary for pride recognition. Previous research has also neglected to examine all features that are theoretically relevant to pride, such as eye gaze directed upward and arms crossed on the chest.

Determining the specific components of the pride expression is important for several reasons. First, it is an essential step toward developing a reliable means of coding pride from nonverbal behaviors. Given the many situations in which it is not socially desirable to explicitly report one's pride (Zammuner, 1996), a behavioral coding scheme would be of great use for future research, as it would allow for the circumvention of self-report.

Second, determining the prototypical components of the pride expression would support or disconfirm the preliminary finding that pride cannot be recognized from the face alone (Tracy & Robins, 2004a). To date, the literature on emotion expressions has strongly emphasized the facial musculature (e.g., Ekman, 2003). In contrast, research on nonverbal communication in nonhuman animals has shown bodily posture to be one of the most consistent communicative gestures across mammalian species (Fessler, 1999; Jolly, 1985). Research on humans, too, has demonstrated the potential importance of the body in emotion expression; several studies have shown that bodies are perceived through a similar neurological process as faces, and this process is distinct from those that orchestrate the recognition of ordinary objects (de Gelder, Snyder, Greve, Gerard, & Hadjikhani, 2004; Slaughter, Stone, & Reed, 2004).

Third, determining the specific components of the prototypical pride expression can help generate hypotheses about the expression's function. For example, if pride necessarily includes an expanded posture, it would support the hypothesis that pride evolved to signal dominance, which is typically associated with largeness and a "cocky," expansive gait in nonhuman primates, such as chimpanzees (de Waal, 1989; Fessler, 1999; Jolly, 1985). Similarly, arms extended from the body could serve an attention-generating function after an individual has had a status-increasing success.

Do the Two Conceptual Facets of Pride Have Distinct Expressions?

Previous research has suggested that pride is not a single unified construct, but rather that there are two theoretically and empirically distinct facets (Lewis, 2000; Tangney, Wagner, & Gramzow, 1992; Tracy & Robins, 2007a). The first facet, which we have labeled *authentic pride*, is based on specific achievements ("I'm proud of what I did"); associated with words like a*ccomplished, confident,* and *productive*; and related to genuine self-esteem, as well as extraversion, agreeableness, conscientiousness, and emo-

tional stability. The second facet, labeled *hubristic pride*, is based on global positive feelings about the stable self ("I'm proud of who I am"); associated with words like *arrogant, boastful*, and *egotistical*; and negatively related to self-esteem and agreeableness but positively related to narcissism and shame-proneness. These two facets are elicited by at least partially distinct cognitive antecedents. Specifically, people typically experience authentic pride when they make internal, unstable, controllable attributions for success, whereas they are more likely to experience hubristic pride when they make internal, stable, uncontrollable attributions for success (Tracy & Robins, 2007a).

Given the emphasis in the emotion literature on the presence of a nonverbal expression as a key criterion, or gold standard, for determining whether a particular state is an emotion (e.g., Ekman, 1992), the question of whether the two facets of pride are associated with distinct expressions is of critical importance. It may help address the broader question of whether authentic and hubristic pride are two facets of the same emotion, similar to anxiety and terror (two facets of fear; Shaver, Schwartz, Kirson, & O'Connor, 1987), or whether they are two distinct emotions, more akin to fear and anger.

Study 1

Study 1 had five aims, which directly emerged from previous research on the nonverbal expression of pride (Tracy & Robins, 2004a). Our first aim was to determine which components of the pride expression are necessary for recognition. To accomplish this, we compared recognition for the expression when each previously found component was present with recognition for control versions of the expression with each previously found component absent. In previous research, we found that several specific components promote pride recognition: (a) small head tilt of approximately 15–20 degrees back, (b) small smile, (c) arms raised above the head with hands in fists or arms akimbo with hands on hips, and (d) visibly expanded posture. However, this research did not include several important control conditions (i.e., head straight, arms at sides, and posture relaxed), so it remains unclear whether each of these particular features (head tilt, arms extended, and posture expanded) is necessary for recognition. Previously, we found that pride recognition was not greater than chance when the smile was entirely absent and when photos included only the target's head, suggesting that a smile and visible upper body are necessary features of the expression. We also found that a small smile produced higher levels of recognition than a large smile.

Our second aim was to determine which components of the expression are sufficient for accurate pride recognition. To accomplish this aim, we examined recognition levels for configurations in which only one component of the expression was present (when combined with the previously found necessary feature of a small smile).

Our third aim was to determine the effect, if any, of eye-gaze direction on pride recognition. In previous research, targets posed with their eyes directed either straight ahead at the camera or gazing upward slightly, but gaze was not systematically manipulated. Gazing upward may convey a sense of superiority (i.e., looking above others), and thus improve pride recognition rates.

Our fourth aim was to determine whether arms crossed on the chest represents a third prototypical arm position of the expression.

We previously found that recognition rates were similar for the two arm positions examined (akimbo with hands on hips and raised above the head with hands in fists), but we did not examine the effect of arms crossed on the chest, a position that has been empirically associated with reports of pride (Walbott, 1998). This gesture may convey a desire to suppress the expression while nonetheless showing it (i.e., expanding the body by raising the arms while simultaneously holding them inward).

Finally, our fifth aim was to determine which configuration(s) of features produces the highest level of recognition, suggesting that it is the prototypical pride expression. On the basis of previous research, this prototypical expression is likely to include a small smile, head tilted slightly back, and visibly expanded posture. However, before we can conclude that this expression is, in fact, the most prototypical version of pride, we must examine whether each of these components produces higher recognition when present than absent and whether the two newly examined components—eye gaze directed upward and arms crossed on the chest—produce even higher recognition.

Method

Judges. Five hundred undergraduate students (70% women) participated in exchange for course credit.

Stimuli. One male and one female target (both Caucasian, ages 23–26) posed expressions of anger, contempt, disgust, fear, happiness, pride, sadness, and surprise. All photos were taken from the waist up. Targets wore identical white shirts and posed in front of a plain blue background. Posing instructions were based on the Directed Facial Action task (Ekman, Levenson, & Friesen, 1983) for all emotions other than pride. A certified FACS coder and leading expert in FACS and EMFACS (Dr. Erika Rosenberg) verified that each expression included the correct action units associated with each emotion and no other action units.

For each emotion other than pride, a second version of the expression that included body movement (e.g., head tilt for contempt[1]) or slight variation in the facial expression (e.g., more intense smile for happiness) was also posed. These additional movements were theoretically derived, based on consensual ideas about each emotion. Specifically, these were (a) hands in fists for anger; (b) head titled slightly forward for disgust, to suggest that the individual might become sick; (c) hands raised to protect the body with shoulders pulled in and held rigid for fear; (d) head tilted slightly forward and shoulders slumped for sadness (Boone & Cunningham, 1998); and (e) arms raised with palms outstretched for surprise. These secondary expressions were included to avoid drawing judges' attention to pride, which was viewed by each judge in four different versions (see experimental design, described below). The addition of these secondary nonpride expressions allowed us to design the experiment so that each judge viewed more than a single version of every expression.

For pride, 32 different versions of the expression were posed, crossing the following four components in a $2 \times 2 \times 4 \times 2$ design:
- Direction of eye gaze: slightly upward versus straight ahead into camera
- Head tilt: head straight with chin perpendicular to neck (con-

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[1] Rosenberg and Ekman (1995) found that contempt is better recognized when the head is tilted back.

trol) versus head tilted 15–20 degrees back, posed with the aid of a compass and protractor

- Arm position: arms flat at sides in a neutral position (control) versus arms raised above the head with hands in fists versus arms akimbo with hands on hips versus arms crossed on chest
- Posture: relaxed (control) versus expanded with shoulders pulled back and chest pushed out, while standing with feet set apart. In all pride poses, targets held a small, closed lip, non-Duchenne smile (Action Unit 12a or 12b).

The specific components of each of the 32 expressions are listed in Table 1, with each expression given an arbitrarily designated number.

Procedure. Judges viewed a series of photographs of posed emotion expressions, projected onto a 4 ft × 6 ft (1.2 m × 1.8 m) screen. Judges viewed each photo for approximately 15 s and for each expression were told to choose the emotion that "best matches the emotion expressed by the person in the photo" from the following options: anger, boredom, contempt, disgust, excitement, fear, happiness, pride, sadness, and surprise. Although there is no evidence that boredom and excitement are associated with distinct nonverbal expressions, these options were included to provide a more stringent test of pride recognition, given that the arm and posture positions manipulated might convey these states (e.g., arms raised might convey excitement and relaxed posture might convey boredom).

In addition to the emotion labels, judges were also given the option to select *no emotion, none of these terms is correct*, and *other*; if they chose the latter option, they were asked to indicate, in an open-ended manner, which emotion or state best described the expression shown in the photo. The inclusion of response options such as *none of these is correct* has been shown to ameliorate concerns about the traditional forced-choice response format (e.g., Russell, 1994) by reducing the likelihood that agreement on a particular response option is an artifact of the response format used (Frank & Stennett, 2001). Specifically, judges will respond by choosing *none of these is correct* when the correct response option is not provided or does not exist (i.e., for an unknown, nonsense expression). Furthermore, allowing judges to choose *other* and provide open-ended responses further addresses problems associated with the forced-choice format (Ekman, 1994; Haidt & Keltner, 1999; Izard, 1994; Russell, 1994).

However, one potential problem with our experimental design is that judges might remember their responses to earlier photos and be influenced by these responses when judging later photos of similar expressions. Studies have shown that prior responses do not typically affect recognition rates for later responses (Biehl et al., 1997), but this issue may be more pertinent when judges view highly similar but slightly different versions of an expression thought to represent the same emotion (i.e., the different versions of the pride expression). In this case, judges may not notice a subtle difference between two expressions (e.g., pride with eye gaze directed upward vs. straight ahead) and thus believe they are viewing the same photo twice. If, in such situations, judges recall their presumed earlier response—actually a response to a different but similar photo—they may simply choose the same response in lieu of actually judging the new expression. This type of responding would prevent pride identification levels from being well discriminated across different versions of the expression.

Table 1

Components and Recognition Rates for 32 Potential Pride Expressions (Study 1)

| Expression | Head tilt (degrees) | Components | | | Pride identification rate (%) |
		Eye gaze	Posture	Arm position	
1	0	Straight	Straight	At sides	20
2	0	Straight	Straight	Raised	49[*]
3	0	Straight	Straight	Akimbo	52[*]
4	0	Straight	Straight	Crossed	26
5	0	Straight	Expanded	At sides	30
6	0	Straight	Expanded	Raised	54[*]
7	0	Straight	Expanded	Akimbo	63[*]
8	0	Straight	Expanded	Crossed	78[*]
9	0	Up	Straight	At sides	10
10	0	Up	Straight	Raised	61[*]
11	0	Up	Straight	Akimbo	48[*]
12	0	Up	Straight	Crossed	26
13	0	Up	Expanded	At sides	24
14	0	Up	Expanded	Raised	58[*]
15	0	Up	Expanded	Akimbo	74[*]
16	0	Up	Expanded	Crossed	78[*]
17	20	Straight	Straight	At sides	44[*]
18	20	Straight	Straight	Raised	75[*]
19	20	Straight	Straight	Akimbo	84[*]
20	20	Straight	Straight	Crossed	56[*]
21	20	Straight	Expanded	At sides	48[*]
22	20	Straight	Expanded	Raised	70[*]
23	**20**	**Straight**	**Expanded**	**Akimbo**	**83**[*]
24	20	Straight	Expanded	Crossed	72[*]
25	20	Up	Straight	At sides	12
26	20	Up	Straight	Raised	68[*]
27	20	Up	Straight	Akimbo	56[*]
28	20	Up	Straight	Crossed	45[*]
29	20	Up	Expanded	At sides	49[*]
30	20	Up	Expanded	Raised	66[*]
31	20	Up	Expanded	Akimbo	79[*]
32	20	Up	Expanded	Crossed	78[*]

Note. $N = 500$. Pride identification rates are mean recognition rates across targets. At sides = arms relaxed at sides; raised = arms raised with hands in fists; akimbo = arms akimbo with hands on hips; crossed = arms crossed on chest.

[*] $p < .05$.

We addressed this problem in two ways. First, we manipulated most of the components—degree of head tilt (two levels), direction of eye gaze (two levels), and posture (two levels)—between subjects, so that each judge viewed only two different versions of each expression. We manipulated arm position within subjects because variation in arm position is more noticeable than variation in the other components, making judges less likely to believe they are viewing the same expression for a second time.

Second, we used a distracter task between blocks of photos. Specifically, we grouped the stimuli into four separate blocks and between each block asked judges to perform a cognitively different but visually similar task. Specifically, they judged the background color of 6 photos showing the same targets posing a neutral expression. In these photos, background color was varied. Each of the four emotion stimulus blocks included one version of each emotion expression, posed by both targets. Arm position was manipulated between blocks, such that judges viewed all four arm positions only after viewing all four blocks. This design increases

the likelihood that judges who fail to notice the difference in arm position and mistakenly believe they have previously viewed a particular pride expression will not recall their response to that previous expression. In summary, 1 of the 32 pride expressions, posed by both targets, and 1 expression of each of the other emotions, posed by both targets, was shown in each of the four blocks, producing 16 photos per block and 64 photos total (not counting photos shown during the distracter task).

Results and Discussion

Table 1 presents pride identification rates for each potential pride expression and whether each identification rate was significantly greater than chance (33%), based on the binomial test.[2] Mean pride identification rates (averaged across the targets) varied considerably across the 32 potential pride expressions (range = 10%–84%), indicating that certain components are more important than others for recognition. An analysis of variance (ANOVA) showed that mean pride identification was higher for expressions with head tilted slightly back rather than straight (control position), $F = 42.75$ (1, 483), $p < .05$; arms raised, arms akimbo with hands on the hips, and arms crossed on chest rather than arms straight at sides (control position), $F = 171.03$ (3, 481), $p < .05$; arms raised and arms akimbo with hands on hips rather than arms crossed on chest, $F = 16.39$ (2, 485), $p < .05$; arms akimbo with hands on hips rather than arms raised, $F = 4.49$ (1, 489), $p < .05$; and posture expanded rather than straight, $F = 65.23$ (1, 483), $p < .05$. There was no effect of eye-gaze direction. These main effects are consistent with the components of Expression 23, one of the two best identified configurations ($M = 83\%$, averaged across targets, best exemplar recognized at 89%) and suggest that the most prototypical pride expression includes the head tilted slightly back, arms akimbo with hands on hips, and expanded posture (see Figure 1).[3]

Although we expected eye gaze directed upward to improve pride identification, the absence of a significant eye-gaze effect may have been due to the fact that pride is theorized to be an approach-oriented emotion, and recognition for approach-oriented emotions tends to be higher when targets direct their gaze straight ahead (Adams & Kleck, 2005). That is, direct gaze may convey dominance (an approach-oriented social message), which is theoretically associated with pride.

The finding that arms crossed on the chest produced higher pride recognition than the control arm position (although to a lesser extent than the other two arm positions examined) may be relevant to the recent finding that crossing one's arms during an achievement task promotes better performance on subsequent tasks (Friedman & Elliot, 2004). If having one's arms crossed on the chest is part of the pride expression, the performance effect could be the result of proprioceptive feedback—the process through which a nonverbal emotion expression produces the subjective feeling experience associated with that emotion and, potentially, the behaviors motivated by it (Stepper & Strack, 1993). It is also noteworthy that the main effect of crossed arms was qualified by an Arms × Posture interaction, $F = 5.24$, $p < .05$, suggesting that the crossed arms position led to higher pride identification only when it was coupled with expanded ($M = 77\%$) rather than straight ($M = 39\%$) posture. Thus, although the other two arm positions appear to be most strongly associated with pride,

Figure 1. The prototypical pride expression. The expression includes a small smile, head tilted slightly (approximately 20 degrees) back, expanded posture, and arms akimbo with hands on hips.

arms crossed on the chest can effectively convey the emotion, at least when combined with other components of the expression.

To determine which components, or combinations of components, are and are not necessary for recognition, we next examined which expressions were not identified as pride better than chance. On the basis of binomial tests, Expressions 1, 5, 9, 12, 13, and 25 were not identified as pride better than chance (33%). All of these expressions included at least three components that were not important for pride recognition, based on the ANOVAs (i.e., head straight + posture straight + arms at sides/crossed on chest), except for Expressions 5, 13, and 25. These three expressions all featured arms in the straight position and either head straight or posture straight, but other than that all components were prototypical. This suggests that in general, at least one prototypical feature (i.e., head tilt back, posture expanded, or arms in one of the two main pride-related positions) must be present in addition to the small smile to convey pride better than chance, but that when arms are straight down at sides, at least two other prototypical components must be present. However, for pride to be recognized at rates comparable to those typically found for the basic emotions in educated Western samples (i.e., greater than 70%; Ekman et al.,

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[2] Chance was conservatively set at 33% to ensure that pride recognition was not simply based on accurate discriminations between positively and negatively valenced emotions or between high- and low-arousal emotions (Hertenstein, Keltner, App, Bulleit, & Jaskolka, 2006).

[3] Although Expression 19, an equally well-identified expression, was not intended to include an expanded posture, it is physically difficult to pose with arms akimbo and hands on hips without expanding one's posture. In other words, although targets were instructed not to expand their posture while posing Expression 19, their chest was necessarily thrust somewhat forward, and this may have promoted the notably high pride identification level for this expression.
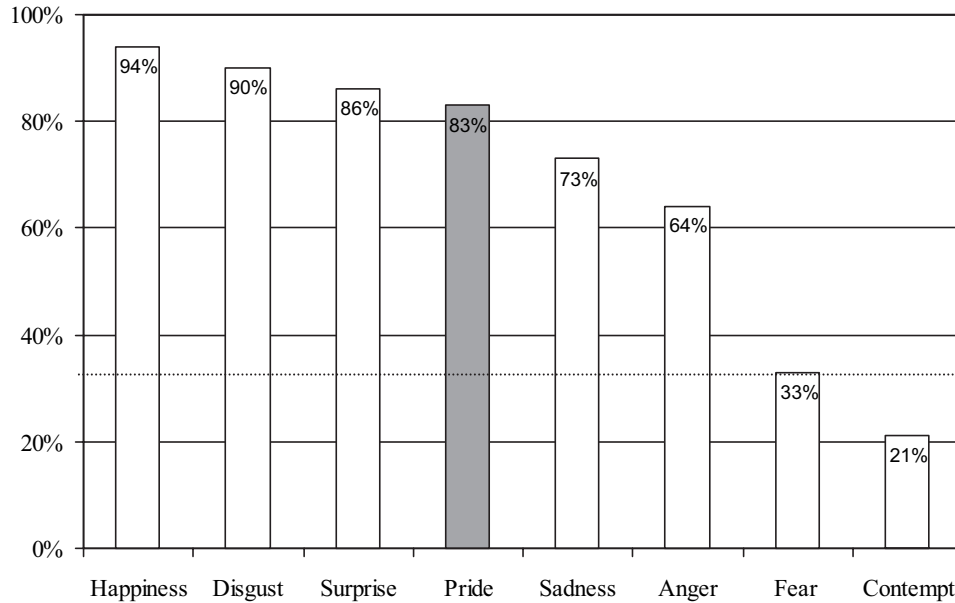
Figure 2. Mean recognition rates for all emotion expressions, including the prototypical pride expression (gray bar), in Study 1 (*N* = 500). The dashed line represents the recognition rate that would occur by chance, which was set at 33%. Recognition rates for all emotions were significantly greater than chance (*p* < .05), except for fear and contempt.

1987; Elfenbein & Ambady, 2002), at least two of the prototypical components (in addition to small smile) must be present, as they were in the 10 expressions recognized at this level (Expressions 8, 15, 16, 18, 19, 22, 23, 24, 31, and 32).

Finally, to determine whether any components of the expression were sufficient for recognition (when combined with the presence of a small smile), we examined each expression that had only one prototypical feature present and all other features in the control position. For arm position, the four expressions that showed arms raised with hands in fists and arms akimbo with hands on hips but all other features in the control position (Expressions 2, 3, 10, and 11) were identified as pride significantly better than chance (*p* < .05), suggesting that these two arm positions are sufficient for pride recognition. However, this was not the case for arms crossed on the chest; the two expressions including this feature and no other prototypical features (Expressions 4 and 12) were not recognized better than chance. For posture expanded, neither expression including this feature and no other prototypical features (Expressions 5 and 13) was recognized significantly better than chance, suggesting that an expanded posture is not sufficient for pride recognition. For head tilt back, the expression including this feature and no other prototypical features was recognized significantly better than chance (*p* < .05) when it also included eye gaze directed straight ahead (Expression 17). The version of the expression with eye gaze directed up (Expression 25) was not recognized better than chance, suggesting that head tilt is sufficient only if coupled with a direct eye gaze.

Target and perceiver effects. Pride identification rates were higher for the male (*M* = 64%) than the female (*M* = 46%) target, *F* = 247.30 (1, 483), *p* < .05. However, given that only two targets were included, this finding is likely a result of differences in posing abilities or other physiognomic features that differ between

the two targets. In fact, in other research controlling for such target differences by using drawn-figure targets that vary only in features stereotypically associated with each gender, we found higher levels of pride recognition for female than male targets (Tracy & Robins, 2007c). There was no effect of perceiver gender on pride identification rates, nor any Target × Perceiver Gender interactions.

Comparison with other emotions. Figure 2 shows mean recognition rates for all eight emotion expressions. Pride recognition rates for the most prototypical expressions were comparable to recognition rates for all of the basic emotions. Fear and contempt elicited the lowest levels of agreement, consistent with a recent meta-analysis of emotion recognition studies (Elfenbein & Ambady, 2002).

Errors in recognizing pride. When the most prototypical pride expression (Expression 23) was not identified as pride, it was labeled as contempt (6.5% of the time), happy (5%), bored (2%), disgust (less than 1%), *none of these* (2%), no emotion (less than 1%), and other (less than 1%). Other emotions were rarely, but occasionally, labeled as pride. Pride false alarm rates were 7% for contempt, 3% for anger, 1% for happiness, less than 0.5% for sadness and disgust, and less than 0.1% for fear and surprise.

Overall, the results of Study 1 suggest that the most prototypical pride expression is as reliably recognized from still photographs as are the prototypical, established basic emotion expressions. The prototypical pride expression includes head tilted back slightly (approximately 15–20 degrees), posture expanded, arms akimbo with hands on hips, and a small smile. Less prototypical but still recognizable arm positions include arms raised with hands in fists and arms crossed on the chest. Although not all prototypical components are necessary for pride recognition, at least one prototypical component must be present in addition to the small smile,

or two additional features when arms are straight down at the sides. Arms akimbo with hands on the hips or raised above the head with hands in fists, when combined with the small smile, is sufficient to convey pride better than chance.

These findings provide the basis for assessing pride from nonverbal behaviors. The Appendix provides a detailed coding system for pride, based on the results described here. This system specifies each of the components researchers must seek to determine that an individual is displaying pride.

Study 2

Study 1 provided information about the central components of the pride expression. However, several different configurations of pride-related components were reliably identified as pride. This finding raises the question of whether certain configurations are more reliably associated with a particular facet of pride (i.e., authentic vs. hubristic). Previous research has suggested that although individuals conceptualize pride in terms of two facets, they place both within the overarching category of pride (Tracy & Robins, 2007a). Thus, when in Study 1 participants agreed that several different expressions represent pride, they may in fact have been agreeing that certain of these expressions represent authentic pride and others represent hubristic pride. In other words, the two facets of pride may have distinct signals. Study 2 addressed this question by testing whether judges reliably associate authentic and hubristic pride with particular versions of the pride expression found in Study 1.

Method

Judges. One hundred thirteen undergraduate students (74% women) participated in exchange for course credit.

Stimuli. Photos of the 10 most prototypical pride expressions from Study 1—those that received at least 70% agreement—were included. Specifically, Expressions 8, 15, 16, 18, 19, 22, 23, 24, 31, and 32 (see Table 1), portrayed by both targets, were viewed by all judges. These expressions were chosen because they were identified as pride by a substantial proportion of judges in Study 1, suggesting that they reliably signal some aspect of the emotion.

Procedure. Judges viewed a series of photographs showing the 10 versions of the pride expression, projected onto a 4 ft × 6 ft (1.2 m × 1.8 m) screen. Judges viewed each photo for approximately 15 s. Before viewing the photos, judges were given the following instructions:

> In this study, you will view a series of photos in which people are feeling one of two forms of pride. People experiencing the first form of pride tend to feel *triumphant*, *accomplished*, *victorious*, *self-confident*, and *like a winner*. People experiencing the second form of pride tend to feel *conceited*, *pompous*, *arrogant*, *haughty*, and *egotistical*. We are interested in whether you can determine which form of pride the person in each photo is experiencing. For each photo, please identify which form of pride best describes the way the person is feeling.

After viewing each photo, participants circled the set of words that they believed best described the emotion conveyed. The two sets of words were taken from our previous research on the facets of pride (Tracy & Robins, 2007a); these facets were derived and

empirically validated through factor analyses of trait and state assessments of pride and cluster analyses of ratings of the semantic similarity among pride-related words. In the present study, we verified that participants understood the meaning of all 10 words or phrases and provided definitions when questions arose.[4]

The response format used was designed to maximize the likelihood of finding evidence for discrimination between two pride expressions associated with each facet. If participants cannot discriminate between two versions of the pride expression when they are told in advance that the expressions convey one of the two facets of pride, it is unlikely that there are, in fact, two versions of the expression that can be distinguished. If, however, we find evidence for reliable discrimination under these circumstances, we can next test whether the two versions are recognized under more realistic conditions, that is, when individuals are not as explicitly searching for two versions of the expression.

Results and Discussion

We conducted binomial tests, with chance set at 50%, to determine whether each expression was significantly more likely to be identified as one facet of pride than the other. Four of the 10 expressions showed significant differences ($p < .05$): Expression 16 was more frequently identified as authentic pride (72%), and Expressions 8 (78%), 22 (60%), and 31 (62%) were more frequently identified as hubristic pride.

We next conducted t tests predicting authentic versus hubristic pride identification from each expressive component. Expressions with the head tilted slightly back (compared with head straight) were perceived as more hubristic ($t[112] = 2.69$, $p < 0.5$), and expressions with eye gaze directed up (as opposed to straight ahead) were perceived as more authentic ($t[112] = 5.35$, $p < .05$). The former finding fits with the idea that head tilted back may convey a sense of superiority and contempt associated with hubristic pride. Research has suggested that the facial expression of contempt is better identified when a head tilt back is added (Izard & Haynes, 1988; Rosenberg & Ekman, 1995), and there may be conceptual and experiential similarities between contempt and hubristic pride. The latter finding regarding direction of eye gaze may be due to the dominance or intimidation conveyed when the target looks directly into the camera. In this view, hubristic pride is the more dominant facet of the emotion, which fits with the finding that it is more positively associated with aggression, disagreeableness, and narcissism (a personality type that seems to emphasize "getting ahead" over "getting along"; Paulhus & John, 1998; Robins, Tracy, & Shaver, 2001). Furthermore, eye gaze directed upward, as opposed to straight ahead, may convey an inward, self-reflective focus as opposed to an outward, other-oriented focus. That is, a person gazing up may appear to be reflecting on and relishing his or her accomplishment, whereas a person gazing straight ahead may appear to be focusing on the interpersonal, competitive implications of the success (e.g., "I'm better than you!").

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[4] In the instructions to participants, we used the term *forms* rather than *facets* to refer to authentic and hubristic pride because we were concerned that some participants would be confused by the meaning of *facet* in this context.

The main effects from the *t* tests are partially consistent with the components of the four expressions found to be well discriminated. Specifically, Expressions 8 and 16, which were the best discriminated expressions, are identical except that Expression 16, which was identified more frequently as authentic pride, depicts an upward eye gaze, and Expression 8, identified more frequently as hubristic pride, depicts eye gaze directed straight ahead. However, Expression 8 also depicts head straight rather than tilted back, raising questions about the importance of the head tilt for hubristic pride. Like Expression 8, Expressions 22 and 31 were both identified as more hubristic and depict an eye gaze directed straight ahead (but do depict head tilt back); they differ only in arm position (arms raised for Expression 22 and arms akimbo for Expression 31).

There was also a significant effect of target gender, $t = 6.98$, $p < .05$, such that the male target was more frequently perceived as portraying hubristic pride (62%) than the female target (47%). However, given that only one target of each gender was included in the stimulus set, we again refrain from interpreting this effect; it was likely due to physiognomic features of the two targets. There were no Perceiver × Gender effects or Perceiver × Target × Gender interactions.

These findings provide conflicting information about the possibility that subtle variations in the pride expression communicate whether a target is experiencing authentic or hubristic pride. On one hand, the direction of eye gaze and the degree to which the head is tilted back seem to be informative. On the other hand, Expression 8—the expression most reliably identified as hubristic and not authentic pride—depicts head straight (no tilt), raising ambiguities about these findings. We would expect that the expression most reliably associated with each facet would combine the features found to distinguish the facets, but this is not the case. It is also noteworthy that even if further evidence resolves this particular ambiguity, the two facets' expressions clearly share several important features in common (i.e., expanded posture, arms out from the body, and small smile).

In Study 3, we further examined this issue by testing whether observers would reliably associate Expressions 8 and 16 with the predicted facet of pride (on the basis of the findings of Study 2) when they were not informed that both expressions necessarily convey pride. In other words, when asked to identify versions of the pride expression without being informed that these expressions represent some form of pride, can judges reliably use the cue of eye gaze direction to determine which facet of pride is being conveyed?

Study 3

Method

Judges. Sixty-four undergraduate students (72% women) participated in exchange for course credit.

Stimuli. Photos of pride Expressions 8 and 16, as well as anger, contempt, disgust, fear, happiness, sadness, and surprise expressions from Study 1, portrayed by both targets, were viewed by all judges. Following the standard used to determine which versions of the pride expression to include in Study 2 (i.e., those identified as pride by at least 70% of the sample in Study 1), we included only Expressions 8 and 16 in Study 3. These were the

only expressions reliably identified as one facet or the other at greater than 70% agreement in Study 2. In addition, these two versions of the expression differed from each other on only one dimension—direction of eye gaze—which seemed to be the most important predictor of the distinction in Study 2. Finally, including only two versions of the pride expression allowed us to maintain a simpler experimental design, given that we also included expressions of seven other emotions.

Procedure. Judges viewed a series of photographs of the two targets posing emotion expressions, projected onto a 4 ft × 6 ft (1.2 m × 1.8 m) screen. Judges viewed each photo for approximately 15 s. Before viewing the photos, judges were given the following instructions:

> In this study, you will view a series of photos showing people who may be feeling a particular emotion. For each photo, you will be shown a list of emotions. Please choose which of the emotions from the list best describes the emotion shown by the person in the photo.

After viewing each photo, participants were asked to "choose the emotion that best applies" from the following options: *anger, contempt, disgust, fear, happiness, pride in a conceited or arrogant sense, pride in a triumphant or victorious sense, sadness, surprise,* and *none of these are correct.* The two facets of pride were defined with two of the words that loaded highest on each pride factor and that consistently clustered on the respective pride facet based on ratings of the semantic similarity of pride-related words (Tracy & Robins, 2007a).

Results and Discussion

We conducted binomial tests, with chance set at 33%, to determine whether Expression 8 was reliably identified as hubristic pride and Expression 16 as authentic pride. Results showed that Expression 16 (eye gaze directed upward and no head tilt) was identified as authentic pride significantly better than chance ($M = 62\%$, $p < .05$; mean hubristic pride identification = 10%). Expression 8, however, was not identified as hubristic better than chance ($M = 30\%$, *ns*). In fact, Expression 8 was more frequently identified as authentic pride ($M = 58\%$), reversing the findings of Study 2 and suggesting that this variant of the expression does not reliably convey one facet or the other.

Similar findings emerged when we examined pride responses only—that is, whether people who identified the two expressions as either facet of pride tended to agree on which facet they were. For Expression 16, of the 72% of participants who selected either of the two pride options, 85% ($p < .05$) chose authentic pride, consistent with the findings of Study 2. For Expression 8, of the 88% of participants who selected either of the two pride options, only 35% chose hubristic pride, contrary to the findings of Study 2.

On the basis of these findings, combined with those of Study 2, it seems that when the pride expression includes eye gaze directed upward, it may be more likely to be perceived as authentic than as hubristic. Other than this feature, however, there does not appear to be any reliable means of distinguishing between the two facets, at least on the basis of the nonverbal components examined in the present research. All of the previously established emotion expressions differ from each other in more than a single component, raising questions about the meaningfulness of this finding. Fur-

thermore, other emotion expressions can be reliably identified when eye gaze is directed straight ahead and when it is averted, although the precise signal sent in these two conditions may vary (Adams, Gordon, Baird, Ambady, & Kleck, 2003). In general, direction of eye gaze does not typically inform observers about which emotion a target is experiencing; rather, this feature may provide contextual information, such as the location of the stimulus that elicited the emotion. Thus, in the case of authentic and hubristic pride, the two facets seem to share the same expression, but upward or averted eye gaze may convey an absence of dominance or competitiveness, which in turn promotes an inference of authentic pride.

General Discussion

The present research addressed two critical questions regarding the nonverbal expression of pride. First, Study 1 manipulated features relevant to the expression to determine the precise set of features that are necessary and sufficient for reliable recognition and to determine the configuration of features that produces the highest level of recognition and thus can be considered the prototypical pride expression. Second, Studies 2 and 3 tested whether each of the two conceptual facets of pride (authentic and hubristic) are associated with distinct nonverbal expressions. Together, these studies provide a detailed portrait of the pride expression. With these findings and the pride coding system shown in the Appendix, future researchers who wish to assess pride without reliance on self-report can reliably do so by coding observable nonverbal behaviors. Below, we review these findings in greater depth and suggest implications of each.

The Precise Components of the Pride Expression

Study 1 identified the most prototypical pride expression: head tilted back slightly, posture expanded, arms akimbo with hands on hips, and a small smile. We also found that although not all prototypical components are necessary for pride recognition, at least one prototypical component must be present in addition to the small smile, or two additional components when arms are straight down at the sides. These findings have allowed us to develop a system for coding pride from nonverbal behaviors (see the Appendix).[5] Specifically, researchers can code for the presence of all prototypical pride components and will know that a recognizable expression was produced if the necessary and sufficient components were observed (e.g., arms raised above the head or akimbo with hands on hips, combined with a small smile). For example, if an observed individual shows expanded posture, this will indicate a recognizable pride expression only if the individual also shows a small smile combined with arms in one of the three prototypical positions or a small smile combined with head tilted back slightly.

However, in real-life and experimental conditions, individuals may well experience pride and show only a single component of the expression (e.g., expanded posture, one hand in a fist). When this occurs, researchers may want to note that a prototypical component of the expression was displayed, but that this component alone cannot be considered a recognizable expression. Researchers who want to create posed expressions of pride should instruct targets to pose the most prototypical expression (Expression 23, shown in Figure 1).

One reason for the relative lack of previous research attention on pride is the absence, until now, of a precise system for coding pride from nonverbal behaviors. Many studies in the growing field of affective science have relied on FACS to code the action units relevant to each basic emotion expression or to develop emotion expression stimuli for use in studies of emotion recognition. The availability of a nonverbal coding system for an emotion greatly enhances a researcher's ability to study that particular emotion, as he or she need no longer rely on self-report alone. Self-report measures of emotions require that participants be (a) aware of their emotions, (b) willing to disclose them, and (c) able to distinguish among different yet similar emotional experiences. Research has suggested that all three of these assumptions are frequently not met: Emotions can occur at an implicit level (Kihlstrom, Mulvaney, Tobias, & Tobis, 2000; Shaver & Mikulincer, 2005); research participants are often unwilling to openly discuss their feelings, particularly feelings of pride and shame (Lewis, 1971; Scheff, Retzinger, & Ryan, 1989; Zammuner, 1996; Zammuner & Frijda, 1994); and similar emotions, especially self-conscious emotions, are frequently confused by laypeople (Tangney & Dearing, 2002). Furthermore, self-conscious emotions such as pride may be particularly prone to self-report biases because they critically involve self-evaluative processes and have direct and important implications for self-worth. For these reasons, nonverbal expressions, which are less under voluntary control than verbal self-reports, may be crucial to an accurate assessment of an individual's emotional response to a particular event (Ekman, 2003). The availability of a nonverbal coding scheme for pride may thus facilitate future studies on such diverse topics as narcissism, achievement, aggression, self-enhancement, self-esteem, and a host of other self-evaluative processes.

The present research also importantly extends our knowledge of pride. The finding that the body—expanded posture and arms akimbo, raised, or crossed on the chest—is needed for pride recognition makes it clear that the pride expression is notably different from basic emotion expressions, which can be identified from the facial musculature alone. However, since the original discovery of the basic emotion expressions and the development of FACS, a growing body of research has pointed to the importance of the body in basic emotion expressions (Reed, Stone, Bozova, & Tenaka, 2003; Slaughter et al., 2004). In addition to studies demonstrating similar perception processes for bodies and faces, one recent study found that that when basic emotion facial expressions are paired with incongruent bodily expressions (i.e., an anger facial expression with a fearful body pose), perceivers show distinct neural responses and impaired recognition, even when they are consciously focusing on the face alone (Meeren, van Heijnsbergen, & de Gelder, 2005). The present findings, combined with this previous research, suggest that it might be fruitful to focus more attention on the body in research on emotion expressions. Emotions such as guilt and love, which lack distinctive facial signals, may be found to have recognizable nonverbal expressions if body position is taken into account. In addition, several emotions known

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[5] It is noteworthy that despite being designed for the coding of behaviors shown by standing individuals, the system presented in the Appendix can also be applied to seated individuals; that is, head tilt, smile, and posture can be coded for targets who are seated.

to have distinct facial expressions may be better recognized when body positions are added.

However, even if other emotion expressions can involve the body, it is noteworthy that the three self-conscious emotion expressions identified thus far—pride, shame, and embarrassment—must involve the body or head movement. How can we account for this distinction? One possibility is that self-conscious emotions have more complex expressions because they evolved to send more complex messages. A quick facial expression may be adequate for telling conspecifics "Run!" but a more complex bodily expression may better convey the message "I just did something that makes me deserve high status." In other words, it may not be a coincidence that the pride expression makes individuals appear larger (expanded posture and arms out from body), whereas the shame expression makes them appear smaller (head ducked down). In our evolutionary history, individuals who increased in size after success likely attracted greater attention, making their success known to a larger social network and thereby enhancing their status more widely. Conversely, the most adaptive social response to failure may be to hide and bow the head so that the face is out of view. The shame expression could, in certain situations, prevent onlookers from clearly identifying the shamed individual, or at least from directing continued attention toward the individual and further damaging that individual's social status.

Guilford and Dawkins (1991) have argued that the evolutionary "design" of social signals should reflect cues that perceivers will be best able to detect and interpret. According to the theory of ritualization, emotion signals begin as purely functional displays and over time become simplified and exaggerated into the highly obvious expressions we see in everyday life (Eibl-Eisenfeldt, 1989). Thus, it may be fruitful to examine the components of an emotion signal for insights into its possible original functions, bearing in mind that each component may be somewhat different from its original form. Just as expanded posture may tell us something about pride's original function, so too may other components of the expression, such as the critical small smile. The fact that the smile is small helps perceivers distinguish pride from happiness, but the necessary presence of a smile in the expression (Tracy & Robins, 2004a) may reveal another function. Smiles convey friendship or alliance, and displaying a smile after an achievement sends the message "I'm dominant, but I'm still your friend; do not attack." Without the smile, the pride display could promote hostility from others as well as a desire to conspire against an individual who has become too dominant.

Is There One and Only One Pride Expression?

Studies 2 and 3 suggest that for the most part, the two facets of pride share a single nonverbal expression. One component of the expression—eye gaze directed upward—serves as a cue to perceivers that a particular expression is more likely to represent authentic pride, and future researchers who wish to code for this facet of pride specifically should assess this subtle cue. However, this difference in eye-gaze direction does not seem to constitute an entirely distinct expression. Rather, individuals who show pride while gazing upward may be perceived as less dominant and assertive than those who gaze directly ahead, and authentic pride is likely to be associated with the less dominant, nonaggressive aspects of pride. This issue could be addressed in future research

by showing photos portraying both versions of the expression and providing additional information about targets' level of dominance. If eye gaze directed upward serves to cue perceivers that a target is not overly dominant, then verbal contextual information (e.g., informing perceivers that a target is the "boss") should have the same effect on discriminations between the two facets.

In some ways it is surprising that the two facets of pride are not associated with more clearly distinct nonverbal expressions. If hubristic pride is an exaggerated, grandiose facet of the emotion, then it might be adaptive for perceivers to accurately distinguish it from more genuine authentic pride to determine whether the individual showing the expression actually merits higher status or is engaging in self-promoting posturing. However, it is possible that those who experience hubristic pride are not being inauthentic about their subjective experience; they may truly feel proud of their accomplishments, but in a more grandiose and generalized way. Both hubristic and authentic pride seem to occur in response to the same kinds of accomplishments; the key difference found thus far is in the causal attributions that generate each of the facets, as well as in the feelings of superiority and grandiosity that are associated with hubristic pride (Tracy & Robins, 2007a). It is also possible that the benefit gained by showing an authentic expression when experiencing hubristic pride is greater than the costs incurred to perceivers from misattributing authentic pride to a hubristically proud individual (i.e., an undeserving individual may get a temporary boost in status, but no lives are lost). If this cost–benefit analysis is correct, evolution would favor a single nonverbal expression for both facets.

It is also possible, however, that perceivers can reliably differentiate expressions of hubristic pride from those of authentic pride, but they use cues other than nonverbal ones to do so. Contextual factors, as well as the expression's intensity and frequency (i.e., how often people show it), may be important. For example, Lance Armstrong's expression of pride after winning the Tour de France is likely viewed as authentic, but if Armstrong showed the same expression after winning a bicycle race around the block with his young son, it might come across as more hubristic. Similarly, if Armstrong showed the pride expression with extreme intensity every time he talked about his bicycling victories, his feelings might be perceived as hubristic. In fact, Paulhus (1998) found that individuals high in narcissism are well liked on first interactions but become disliked over time, perhaps because behaviors (e.g., an expression of pride) that are considered socially appropriate at first become undesirable when frequently repeated.

The findings from Studies 2 and 3 also have implications for the broader question of whether the two facets of pride are distinct emotions. If we view distinct expressions as a key criterion for distinct emotions (Ekman, 1992), then the present research suggests that the two facets of pride are not distinct emotions. Instead, like happiness (which includes facets of cheerfulness, elation, and contentment), sadness (which includes despair, disappointment, and grief), and anger (frustration, rage, and hostility), pride seems to be a broad construct that includes more than a single facet, yet is reliably distinct from other emotion constructs that have their own unique expressions and subfacets (Shaver et al., 1987). It is important to note that regardless of whether the facets are distinct emotions, the evidence amassed thus far suggests that pride as a whole is, quite clearly, distinct from other broad-level emotions (e.g., happiness).

It is also important to note that we did not manipulate every possible feature of the pride expression that could produce two distinct expressions. There may be behavioral components not examined in the present research that reliably signal one facet or the other (e.g., chin raise, Action Unit 17) or vocal signals that differentiate between the two facets (Russell, Bachorowski, & Fernandez-Dols, 2003).

Future Research

Although the prototypical pride expression was developed from previous research on preverbal children's behavioral responses to success (Belsky & Domitrovich, 1997; Lewis et al., 1992; Stipek et al., 1992; Weisfeld & Beresford, 1982) and new findings suggest that this expression is spontaneously displayed by Olympic athletes in response to victory (Tracy & Matsumoto, 2007), we do not know how frequently the expression co-occurs with actual pride experiences in everyday life. An important future study will manipulate pride and test whether the expression and subjective feeling co-occur. Such research should also examine whether pride has distinct physiological or neural correlates, as may be the case for several basic emotions (e.g., Ekman et al., 1983; LeDoux, 1996; Panksepp, 1998). Recent studies have found preliminary evidence for distinct neural patterns associated with self-processes (see Beer, 2007, for a review); these patterns may be relevant to the display and experience of pride. Furthermore, given recent evidence of distinct physiological correlates of shame (Dickerson, Gruenewald, & Kemeny, 2004), it is important to examine whether pride, too, has unique biological substrates. In general, it is our hope that future research on pride and related topics will benefit from knowing how it is expressed in nonverbal behavior and being able to assess it in through this observable channel.

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Appendix

Pride Coding System[A1]

Instructions for Coders

For each of the following codes, please rate the intensity of the particular behavior or movement using the scale below. If the behavior or movement is not present, score it as 0.

```
0--------------1--------------2--------------3--------------4--------------5
Not at all      Visible,                   Moderate                     Extreme
present       but very mild                intensity                    intensity
              intensity
```

Head Codes

1. Head tilted back/up ___

2. Head tilted forward/down ___

3. Smile ___

4. Moving hands to cover face or part of face___

5. Hiding face by moving face or head (in hands, onto ground, into upper arm, turning away, etc.)___

6. Eye gaze directed straight ahead___

Arm Codes

1. One or both arms out from body ___

2. One or both arms raised ___

3. One or both hands in fists ___

4. Hands on hips ___

5. Arms crossed on chest ___

6. One or both arms limp at sides ___

Body Codes

1. Chest expanded ___

2. Torso pushed out/leaning back ___

3. Chest narrowed inward ___

4. Shoulders slumped forward___

Coding Scheme

Pride components = Head 1, Head 3, Arms 1, Arms 2, Arms 3, Arms 4, Arms 5, Body 1, and Body 2. Not all components must be present to code pride. Necessary components for greater than chance recognition are as follows: Head 3 + [(Head 1 + Head 6) or (Arms 1 + Arms 2 + Arms 3) or (Arms 4) or (Arms 5)] or Head 3 + Arms 6 + Head 1 + (Body 1 or Body 2).

Shame components = Head 2, Head 4, Head 5, Arms 6, Body 3, and Body 4. Not all components must be present to code shame. Greater than chance recognition has been found from Head 2 + (Head 4 or Head 5).

_____

[A1]This coding scheme also includes behaviors relevant to shame, based on Izard (1971), Keltner (1995), and Lewis et al. (1992). See Tracy and Matsumoto (2007) for interrater reliabilities for each item.