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What is This?

(Implicitly) Judging a Book by Its Cover: The Power of Pride and Shame Expressions in Shaping Judgments of Social Status

(S)SAGE

Azim F. Shariff[1], Jessica L. Tracy[2], and Jeffrey L. Markusoff[2]

Abstract

How do we decide who merits social status? According to functionalist theories of emotion, the nonverbal expressions of pride and shame play a key role, functioning as automatically perceived status signals. In this view, observers automatically make status inferences about expressers on the basis of these expressions, even when contradictory contextual information about the expressers' status is available. In four studies, the authors tested whether implicit and explicit status perceptions are influenced by pride and shame expressions even when these expressions' status-related messages are contradicted by contextual information. Results indicate that emotion expressions powerfully influence implicit and explicit status inferences, at times neutralizing or even overriding situational knowledge. These findings demonstrate the irrepressible communicative power of emotion displays and indicate that status judgments can be informed as much (and often more) by automatic responses to nonverbal expressions of emotion as by rational, contextually bound knowledge.

The world more often rewards the appearance of merit than merit itself.

François de la Rochefoucauld (1999/1664)

How do people choose whom to listen to, respect, and follow? On what basis, and with how much deliberation, do individuals decide to dole out that most precious capital—social status? Are these decisions built on a collection of facts, diligently sorted through? Or are they guided more by implicit cognitive reflexes, leading us to make snap judgments from emotional intuitions? In short, how do we decide who gets to be on top?

The Emotion Expressions of Power

Status hierarchies are central and universal features of human societies (Fried, 1967). Though the division of individuals within a group into high- and low-status members leads to benefits for the entire group (Bales, 1950; Berger, Rosenholtz, & Zelditch, 1980), high-status individuals benefit considerably more than low-status individuals. Those acknowledged by others to be higher in rank tend to enjoy greater influence over group decisions, greater access to coveted resources, and better health, longevity, and, ultimately, reproductive fitness (Berger et al., 1980; Hill, 1984; Sapolsky, 2004). As a result, a high-status individual's ability to communicate his or her rank is likely to be of considerable adaptive importance.

Humans have been shown to use a number of nonverbal cues to communicate status, such as physical size (von Rueden, Gurven, & Kaplan, 2008), dress (Maner, deWall, & Gailliot, 2008), vocal frequency (Puts, Hodges, Cárdenas, & Gaulin, 2007), and the possession of valuable skills (Henrich & Gil-White, 2001). Recent research suggests that the briefly expressed nonverbal behaviors associated with the emotions of pride and shame also serve this communicative function (Huang, Galinsky, Gruenfeld, & Guillory, 2011; Shariff & Tracy, 2009; Tiedens & Fragale, 2003; Williams & DeSteno, 2009). Indeed, findings from several streams of research suggest that status communication may be an underlying evolved function of these two emotions.

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First, studies have found that high-status individuals are intuitively perceived as experiencing greater levels of pride than low-status individuals, following success (Tiedens, Ellsworth, & Mesquita, 2000). Second, individuals experimentally manipulated to experience pride have been shown to subsequently behave in a dominant manner, and to be perceived by their peers as dominant, suggesting that pride feelings motivate high-status-oriented behaviors (Williams & DeSteno, 2009). Third, pride and shame are associated with distinct nonverbal expressions that, by expanding and shrinking the expresser's appearance, have morphological similarities to the dominance and appeasement displays of many nonhuman animals (de Waal, 1989; Keltner & Buswell, 1997; Martens, Tracy, Parr, & Cheng, 2010) and meet the criteria typically considered to indicate universality. In particular, both expressions are reliably recognized by individuals from a wide range of cultures, including small-scale traditional societies in Burkina Faso and Fiji (Izard, 1971; Keltner, 1995; Tracy & Robins, 2008; Tracy, Shariff, Zhao, & Henrich, in press), and both are reliably displayed in response to success and failure by individuals across cultures, including congenitally blind individuals who could not have learned the expressions through visual imitation (Tracy & Matsumoto, 2008). Together, these findings provide strong support for the claim that the pride and shame expressions are human universals that reliably occur in response to success and failure—two situations that have clear relevance to the attainment of social status.

In prior research, we built on these previous findings to more directly examine whether the pride and shame expressions communicate status (Shariff & Tracy, 2009). We did so by measuring automatic associations—using the Implicit Association Task (IAT; Greenwald, McGhee, & Schwartz, 1998) and the Affective Misattribution Paradigm (AMP; Payne, Cheng, Govorun, & Stewart, 2005)—between several emotion expressions and high- and low-status concepts. Across both implicit assessment methods, we found that pride expressions were most powerfully associated with the concept of high status, even when compared with other power-evoking emotions such as anger and with other positive emotions such as happiness. This finding, of a strong automatic association between pride displays and high status, was subsequently replicated among a sample of individuals living in a small-scale traditional society in Fiji, suggesting that pride may be a universal signal of high status (Tracy et al., in press). We also found that shame expressions were automatically associated with low status, when shame was compared with pride or with a set of status-irrelevant emotions (e.g., disgust). However, shame displays were not more strongly associated with low status than another low-status emotion, sadness. Thus, although shame does convey low status, it is not the only emotion to do so.

The Power of Emotion Expressions

These studies demonstrating the implicit status-signaling function of pride and shame displays are theoretically rooted in an evolutionary account that views emotion expressions as potent, prelinguistic, and preconscious forms of social communication (Shariff & Tracy, 2011). This account predicts that the latent functional message sent by an emotion expression triggers an automatic response in the receiver. This response is thought to occur rapidly, spontaneously, and independently of conscious awareness, elicitation, or control (Dimburg, Thunberg, & Elmehed, 2000; Ohman, 2002). As a result, implicit perception of the social message conveyed by a prototypical emotion expression should be demonstrable even when the expression is perceived only unconsciously. This prediction has been supported by several prior findings. For instance, anger expressions that have previously been paired with an electric shock have been found to lead to heightened skin conductance responses, when participants perceive consciously masked versions of these expressions (Esteves, Dimberg, & Ohman, 1994). Similarly, another study found that participants' willingness to consume a beverage was increased or decreased by the subthreshold (16 ms) presentation of happy or sad expressions (Winkielman, Berridge, & Wilbarger, 2005). These studies indicate that individuals can not only recognize the emotion conveyed by particular expressions very quickly and efficiently (Tracy & Robins, 2008) but also respond behaviorally, in an adaptive fashion, to the messages that seem to be automatically conveyed by these expressions.

The Power of the Situation

Like most studies in the large body of research on emotion expressions, all of the studies reviewed thus far examined expressions in an entirely decontextualized form. Participants viewed targets displaying emotions, but were given no information about who the targets were, the surrounding conditions of the displays, or whether the expressions were warranted. Yet, researchers have long argued that studies of emotion expressions must examine the role of such contextual factors on judgments of these expressions (e.g., Carroll & Russell, 1996). Although several studies have found that when contextual cues are paired with expressions, the former tend to be ignored in lieu of the latter (e.g., Nakamura, Buck, & Kenny, 1990), others have shown that judgments of a target's emotion are largely influenced by contextual cues, and that in certain cases context can more powerfully determine a perceiver's judgment about the emotion conveyed than the expression itself (e.g., Aviezer et al., 2008; Carroll & Russell, 1996).

In particular, Aviezer and colleagues (2008) demonstrated that the same expressions are judged as conveying different emotions when contextual information is varied to indicate a similar but distinct emotion. For example, disgust

expressions were more likely to be identified as anger than disgust when they were accompanied by visual contextual cues indicating the target's hostile intent. Supporting these findings, Barrett and Kensinger (2010) found that the contextual information surrounding emotion expressions is reliably encoded in memory and used to aid in the identification of displayed emotions. Participants instructed to identify the particular emotion expressed by a facial display were more likely to remember elements of the surrounding visual context than were participants whose task was simply to judge the valence of the expression. This suggests that the process of emotion recognition tends to incorporate a rapid scan of visual contextual cues relevant to judging the specific emotion. Consistent with this account, Fernandez-Dols and colleagues (2008) showed that people falsely recall the presence of distinct emotion expressions that match a particular situation even when those expressions were not, in fact, displayed. Adults and children who studied images of a scene likely to elicit prototypic emotion displays (e.g., a basketball victory) tended to misremember the presence of the relevant emotional displays, despite the fact that targets in the scenes did not actually show them.

These studies indicate that context can, under certain circumstances, influence the emotion recognition process. However, none of these studies examined situations where context and emotion expression were in direct conflict (e.g., a sad face shown in a happy situation). As a result, it remains unclear which source of information (context or expression) is given more weight when the two are incongruous—an event that is likely to occur fairly frequently, given the importance of regulating one's emotion expressions in certain situations (Gross, 1999). Furthermore, all of these previous studies generally followed the standard paradigm within the emotion recognition literature of assessing abstract recognition (i.e., labeling of expressions), rather than participants' perception of the functional social message that likely underlies the adaptive origins of these expressions. That is, we do not know whether the context surrounding an expression affects the social impact of that expression, and, in particular, whether it does so when the context directly contradicts the expression. When it comes to pride, this question is not merely academic; if observers paid no attention to context and relied only on the cues sent by emotion expressions, low-status individuals might exploit the pride display to receive status benefits without necessarily deserving them.

Following this logic, one might expect that, in interpreting the social meaning conveyed by emotion expressions, humans make use of the rapid contextual encoding and integration that they have been found to apply to the task of emotion recognition (i.e., Feldman Barrett & Kensinger, 2010). That is, if contextual information contradicts the pride expression's high-status message, context may be rapidly integrated with the expression, and, perhaps, take precedence in shaping judgments. If this is the case, then in

situations where an observer *knows* an individual is low status, this information should be more relevant to predicting the individual's status than the individual's contradictory pride display.

In contrast, longstanding theoretical accounts emphasizing the centrality of emotion expressions to nonverbal communication (e.g., Ekman, 2003)—and particularly those emphasizing functionalist explanations for such expressions (Ohman, 2002; Shariff & Tracy, 2011)—predict that emotion expressions hold a cognitive primacy over contextual information. In this view, emotion expressions occupy a special class of social communication. Having evolved to rapidly signal critical interpersonal information, these expressions may trigger automatic responses regardless of other competing informational cues. As a result, instead of producing a balanced integration between emotion expressions and surrounding contextual information, these instinctually understood, meaning-laden expressions may trump other cues in driving social judgments.

Despite the prominent role that emotion expressions have played in many domains of psychological science, and the assumption, in much of this work, that these expressions send adaptive messages in real-world, contextually encoded situations (Ekman & Rosenberg, 2005), this important question remains unresolved. What is the relative influence of clearly contradictory emotion expressions and context cues on person perception and social judgments? How do emotion expressions stack up against knowledge derived from nonemotional sources?

The Present Research

In four studies, we sought to test these competing hypotheses regarding the power of emotion expressions relative to contextual information surrounding those expressions, on person judgments. To do so, we measured the relative strength of the pride and shame expressions compared with clear-cut contextual information about an individual's social status, in situations where these expressions and the surrounding context were directly in conflict. We examined the impact of these competing sources of information on person judgments made at two levels of processing— implicit and deliberative. As suggested above, if pride and shame expressions originated as preconscious status signals, their functional messages should be perceptible using low-level cognitive processes (Bargh & Pietromonaco, 1982; Greenwald, 1992). In contrast, higher level cognitive adaptations (e.g., deliberative reasoning) might facilitate the use of contextual information to override the impact of a faked expression (Chaiken, Liberman, & Eagly, 1989). Few studies have explored how context influences the social impact of emotion expressions (though see Aviezer et al., 2008; Hugenberg & Bodenhausen, 2003; Masuda et al., 2008), and none that we know of has examined how competing contextual information affects the meaning inferred from an expression beyond the specific emotion
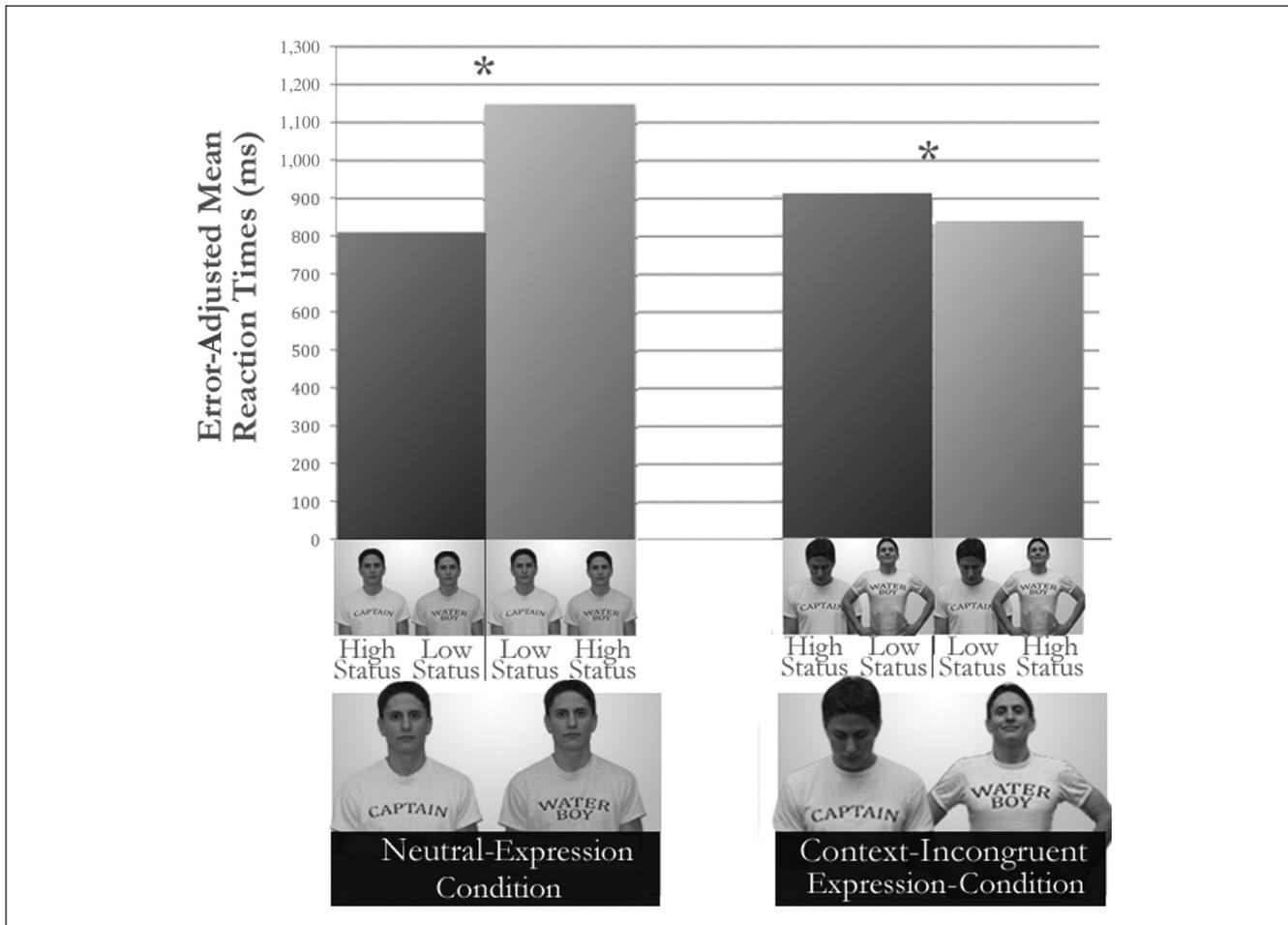
Figure 1. Mean Implicit Association Test (IAT) reaction times in Study 1
Note: The figure shows that, in the neutral-expression condition, reaction times were lower (faster) for the captain/high-status and waterboy/low-status pairings than for the captain/low-status and waterboy/high-status pairings, whereas the inverse pattern emerged in the context-incongruent emotion-expression condition, where the captain displayed the prototypical pride expression and the waterboy displayed the prototypical shame expression.
*Corresponding d-measures are significantly different from 0, at the p < .05 level.

conveyed. Furthermore, we know of no studies that have taken a dual-process approach to this issue, exploring how context and expression shape person judgments under conditions of implicit and explicit processing.

Studies 1 to 3 addressed these issues using two different measures of implicit cognition: the Implicit Association Test (IAT) and the Affect Misattribution Procedure (AMP). These studies examined the extent to which implicit inferences of an individual's status are made on the basis of pride and shame expressions versus nonemotionally derived knowledge about the person. Study 4 addressed the same question, but for explicit judgments, asking whether emotion expressions that are incongruous to contextual information influence deliberated judgments about social status.

Study 1

We first sought to determine whether contextual information would influence participants' automatic status associations

with target individuals showing pride and shame, when context sends a message that directly conflicts with the expression.

Method

A total of 68 undergraduates (73% female, *M* age = 23.8)[1] participated in exchange for course credit. Seated at a 17″-monitor computer workstation, participants viewed two photos of a college-age male of European descent displaying a neutral expression, one wearing a green t-shirt and the other a blue t-shirt. Participants were informed that these two photos in fact portrayed two different individuals—twin brothers. By using the same target individual across conditions, and portraying him as a twin, we were able ensure that any differences found between conditions were not due to physiognomic features of different targets.[2] Two cues were used to convey a contextually based status difference between the "twins." First, alongside the photos, textual

information explained that one twin is well respected as the top player and captain of a successful soccer team, whereas the other twin is a poor player who doubles as the team's waterboy.[3] Second, in all photos, the twins wore different colored t-shirts emblazoned with either "Captain" or "Waterboy" (see Figure 1). As a manipulation check, and to ensure that this contextual information was correctly encoded, after reading this information and viewing these photos, participants rated the status of each twin on a Likert-type scale ranging from 1 = *very low status* to 7 = *very high status*.

Participants next were randomly assigned to one of two between-subjects experimental conditions: a neutral-expression condition or an emotion-expression condition. They then completed a task designed to familiarize them with the stimuli they would be viewing in the IAT. Specifically, participants in the neutral condition viewed two photos of each twin displaying a neutral expression, and categorized them by name ("Mark" or "Steve"; accuracy = 94%). Participants in the emotion condition completed the same categorization task, but instead of viewing photos of the twins displaying neutral expressions, these participants viewed three photos of the captain displaying shame, and three photos of the waterboy displaying pride (categorization accuracy = 95%). These images have previously been found to reliably convey pride and shame (Tracy & Robins, 2004; Tracy, Robins, & Shriber, 2009). All participants next categorized 10 words conveying high and low status as "high status" or "low status" (accuracy = 91%). High-status words consisted of *powerful, important, dominant, prestigious*, and *commanding*. Low-status words consisted of *submissive, weak, humble, unimportant*, and *minor*. These words were previously validated as indicating high and low status, respectively (see Shariff & Tracy, 2009), each being rated 4.5 or higher on a 5-point Likert scale assessing relevance to high/low status.

Participants next completed an IAT measuring their implicit associations between each twin and high- and low-status concepts. The IAT assesses implicit associations between pairs of dichotomous stimuli by measuring reaction times (RTs) for categorizing stimuli across pairings. In essence, the IAT measures whether RTs are quicker for pairings that are expected to be associated versus those expected to be disassociated. Here, words representing high or low status were paired with photos of the twins. Based on the logic of the IAT, if participants respond more quickly to photos of the captain when they are paired with high-status words than when they are paired with low-status words, and this difference is smaller or in the opposite direction for photos of the waterboy, it indicates that the captain is associated with high status, or the waterboy is associated with low status, or both.

Participants completed two practice blocks of the IAT, followed by two counterbalanced test blocks of 40 trials. In one test block, they were asked to press one key if presented with either a high-status word or a photo of the captain, who displayed either shame (emotion-expression condition) or a neutral expression (neutral-expression condition) depending on whether they were in the context-incongruent emotion-expression condition or the neutral condition. They were instructed to press another key if presented with a low-status word or a photo of the waterboy, who, depending on condition, displayed either pride (emotion-expression condition) or a neutral expression (neutral-expression condition). In the alternate block, these pairings were reversed, such that the shame-displaying captain was paired with low status and the pride-displaying waterboy with high status. Thus, in the former block, participants in the emotion-expression condition had to quickly associate photos and words that were congruent based on context, but incongruent based on emotion expression. In the latter block (block order was counterbalanced), participants in the emotion-expression condition had to quickly associate photos and words that were congruent based on emotion expression, but incongruent based on context. Importantly, participants in the emotion-expression condition always viewed the captain showing shame and the waterboy showing pride, and not the reverse.

For the participants in the neutral condition, a comparison of mean RTs between the two blocks—specifically, the degree to which participants were faster to pair the captain with high status and the waterboy with low status than they were to make the opposite pairings—reveals the strength of participants' implicit status associations with the contextual knowledge provided about the twins, based on their roles as captain and waterboy, independent of any emotion expressions. The neutral condition thus accomplishes two goals. First, it provides a test of the effectiveness of the context manipulation on implicit status associations. Second, the effect size emerging from the neutral condition can be compared with that emerging from the emotion-expression condition, to reveal the impact of the context-incongruent emotion expressions on the implicit status associations with each twin. Given that the presumably high-status captain displayed shame, and the presumably low-status waterboy displayed pride, we can attribute any reduction in implicit high-status associations with the captain over the waterboy, from that found in the neutral condition, to the influence that the pride and shame expressions have on person perception even in the context of incongruent status information.

Throughout the IAT, participants were instructed to respond as rapidly as possible while keeping errors to a minimum.

Results and Discussion

Participants' initial explicit status ratings, based on the Likert scale, confirmed the effectiveness of the context manipulation on explicit status judgments; the captain was

rated as substantially higher status than the waterboy, Ms = 5.74 (SD = 1.4) versus 3.13 (SD = 1.1), $t(47)$ = 10.76, p < .05, Cohen's d = 3.14.

We next calculated an IAT d-measure within each experimental condition (i.e., separately for neutral-expression and emotion-expression participants), following Greenwald, Nosek, and Banaji (2003).[4] Positive d-measures represent lower (faster) RTs for the context-congruent captain/high-status and waterboy/low-status pairings than the reverse, context-incongruent pairings, indicating a positive implicit association between status and the context manipulation. Within the neutral-expression condition, implicit status judgments matched the pattern found in the explicit ratings; a one-sample t test showed that the mean d-measure that emerged, 0.58, significantly differed from zero, p < .05, Cohen's d = 1.71, indicating that participants were significantly faster at categorizing the captain when he was paired with high-status words and the waterboy when he was paired with low-status words, compared with the reverse pairings.

In the emotion-expression condition, the corresponding d-measure was −0.21. Based on paired and one-sample t tests, this d-measure is significantly different from that found in the neutral condition, $t(65)$ = 5.52, p < .05, d = 1.37, and significantly *below* zero, $t(34)$ = 2.42, p < .05, d = 0.82; see Figure 1. This indicates that participants were faster to categorize the shame-displaying captain with low status and the pride-displaying waterboy with high status than they were to perform the reverse pairings, despite the fact that this meant making associations that contradicted the strong contextually based status information provided about each twin. Thus, the incongruent emotion expressions not only notably reduced the effect of context on implicit status judgments, as revealed by the significant difference from the neutral-expression condition, but also overpowered the incongruent contextual information in shaping judgments, as revealed by the significant, negative d-measure within the emotion-expression condition. Implicit associations, in this case, were driven more by emotion expressions than by context.

These findings thus provide initial support for the power of emotion expressions on implicit status judgments. However, the IAT is a necessarily relative method; it can only measure the strength of particular associations as compared with particular other associations. This limitation prevented us from determining whether one of the two emotion expressions—pride or shame—was more (or even solely) responsible for the effects found. Study 2 addressed this issue by using a different measure of implicit responding, the AMP, which allowed us to compare both emotions with a neutral control.

Study 2

In Study 2, we sought to replicate and expand the findings of Study 1 using the AMP. The AMP uses a misattribution paradigm rather than the assessment of reaction-time differences
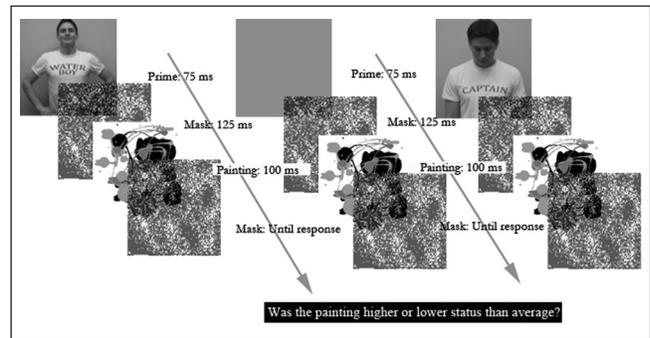

Figure 2. The Affect Misattribution Procedure (AMP)
Note: Primes and abstract paintings were briefly displayed and followed by visual masks. Participants judged whether each painting was higher or lower status than average. They were explicitly instructed to ignore the primed images when judging the paintings.

to measure implicit associations and shows superior reliability to the IAT (Payne et al., 2005), as well as greater resistance to faking responses, thus addressing other concerns that have been raised about the IAT (Bosson, Swann, & Pennebaker, 2000; Schnabel, Asendorpf, & Greenwald, 2008).

In the AMP, participants are briefly but supraliminally shown a target stimulus (here, the pride-expressing waterboy, shame-expressing captain, or, following Payne et al. (2005), a gray box as a control), followed by a neutral ambiguous stimulus (here, an abstract art painting[4]), and are then asked to rate the neutral stimulus on a particular attribute (i.e., status), while ignoring the target stimulus (see Figure 2). Thus, if the pride expression influences implicit judgments of high status even in the face of contradicting contextual information, the ambiguous abstract paintings appearing after the pride-expressing waterboy should receive more high-status judgments than the abstract paintings appearing after control images. Similarly, if the shame expression influences implicit judgments of low status even in the face of contradicting contextual information, the ambiguous paintings appearing after the shame-displaying waterboy should receive more low-status judgments than those appearing after control images. In contrast, if context is more important than expression, paintings appearing after the shame-expressing captain should receive the most high-status judgments, and paintings appearing after the pride-expressing waterboy should receive the most low-status judgments.

Method

A total of 60 undergraduates (70% female, M age = 20.8) participated in exchange for course credit. As in Study 1, prior to completing the implicit task, participants provided explicit status ratings of the two "twin" targets. They viewed the same photos of the captain and waterboy showing neutral expressions, accompanied by the same contextual information, and rated the status of each twin on the same 7-point Likert scale.

Participants then completed 72 trials of the AMP in randomized order. Target images (proud waterboy, shamed captain, or a neutral gray box as a control) were presented for 75 ms each and were immediately followed by a 125 ms visual mask. Abstract paintings[5] were then shown for 100 ms and followed by a visual mask, which remained on-screen until the next trial began (see Figure 2). In each trial, after viewing the abstract painting, participants were prompted to indicate whether the painting was "higher or lower status than average." Following Payne et al. (2005), they were explicitly instructed, prior to the task, to ignore the target photos and base status judgments solely on the paintings. Although judging the status of a painting is a somewhat odd task, participants did not indicate any difficulty in completing it, and previous research has demonstrated the effectiveness of this method in uncovering the implicit status associations of decontextualized pride and shame expressions (Shariff & Tracy, 2009).

To verify the effectiveness of the context manipulation in eliciting implicit status judgments, a separate group of 49 undergraduates (67% female, *M* age = 20.2) completed a neutral-expression version of the AMP—conceptually similar to the neutral-expression condition in the IAT in Study 1. In this version, participants completed the same task as above, with the key difference that in the target images, the captain and waterboy displayed neutral expressions rather than context-incongruent shame and pride expressions. Thus, any differences that emerged between judgments of the paintings that appeared after these target images could only be attributed to the context manipulation, allowing us to assess the impact of the manipulation on AMP status judgments, independent of emotion expressions.

Results and Discussion

Explicit ratings and implicit judgments again confirmed the effectiveness of the context manipulation. In explicit ratings, the captain was rated higher status than the waterboy when both displayed neutral expressions, *M*s = 5.67 versus 3.27, *t*(59) = 10.72, *p* < .05, *d* = 2.79, almost identical to the explicit status ratings found in Study 1. In the neutral-expression version of the AMP, similar results emerged. When both targets showed neutral expressions, paintings that followed images of the captain were significantly more likely to be judged as high status (58%, *SD* = 23%) than those following images of the waterboy (42%, *SD* = 24%), *t*(48) = 3.30, *p* < .05, *d* = 0.95. Images following the captain also differed significantly from images following the neutral gray box (49%, *SD* = 22%), *t*(48) = 2.12, *p* < .05, *d* = 0.62, although images following the waterboy did not, *t*(48) = 1.19; *p* > .05, *d* = 0.34. Thus, contextual information about the captain, but not necessarily the waterboy, had a significant effect on status judgments made at an implicit and explicit level.
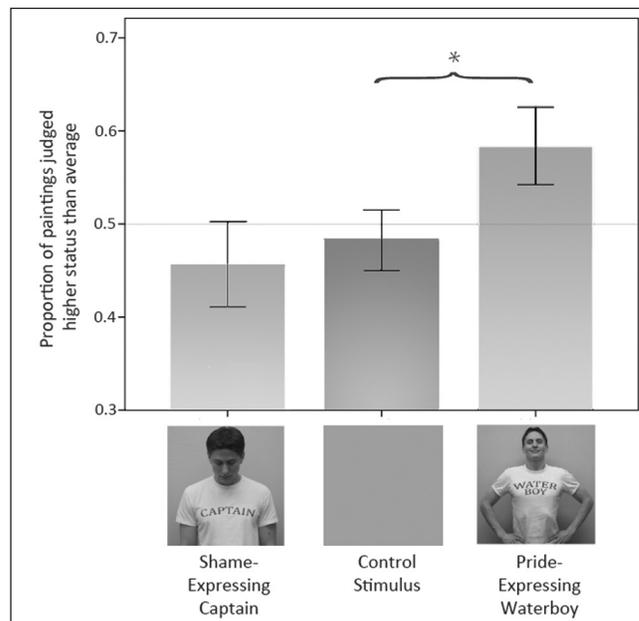

Figure 3. Mean proportion of abstract paintings rated as "higher status than average," depending on the target stimuli that immediately preceded them
Note: The gray box was used as a neutral control stimulus. Status misattributions were more affected by emotion expressions than context. Error bars indicate standard errors of the mean. The red line indicates chance responding, where means should fall if responses to the paintings were random.
* indicates that these conditions significantly differ at the p<.05 level.

In the experimental (i.e., context-incongruent emotion-expression) iteration of the AMP, a significant difference emerged in the proportion of high- to low-status judgments made following the three target stimuli, *F*(2, 180) = 4.30, *p* < .05. Based on planned contrasts, abstract paintings following the pride-expressing waterboy were more frequently judged as high status (59%, *SD* = 25%) than those following the shame-expressing captain (46%, *SD* = 27%), *t*(63) = 2.49, *p* < .05, *d* = 0.63, and control images of the neutral gray box (48%, *SD* = 23%), *t*(63) = 2.36, *p* < .05, *d* = 0.59. Judgments following the shamed captain and control images did not significantly differ, *t*(63) = 0.34, *p* > .05 (see Figure 3).

To more directly assess the effect of incongruent emotion expressions on these status judgments, we next conducted between between-subjects comparisons between the neutral and emotion-expression iterations of the AMP, as was done in Study 1 with the IAT. Based on an independent samples *t* test, when the captain displayed the shame expression, rather than a neutral expression, the proportion of subsequent paintings rated as high status was significantly reduced from 58% to 46%, *t*(111) = 2.50, *p* < .05. Conversely, when the waterboy displayed pride, rather than neutral, the proportion of subsequent paintings judged as high status increased from 43% to 59%, *t*(112) = 3.43, *p* < .05. As expected, the proportion of paintings judged as high status

following the neutral box did not differ between iterations (48% vs. 49%), $t(113) = 0.08$, $p > .05$.

These results replicate those of Study 1 in demonstrating that, at an implicit level, the pride expression powerfully signals high status even in the face of contradicting contextual information. Indeed, it appears that in certain circumstances the information sent by pride has a greater impact on person judgments than does context. The low-status message sent by shame, despite having a significant effect on status inferences, was somewhat less powerful than that sent by pride. The shame expression did not overwhelm the contextual status information as the pride expression did, but did produce a significant decrease in status judgments from what was found for paintings following the captain when he displayed a neutral expression. Quantifying the effect of each expression by comparing expression-condition judgments to those in the neutral condition reveals that the pride expression caused the rate of high-status judgments made about paintings following the waterboy to rise from 43% in the neutral condition to 59% when he was displaying pride—a proportional increase of 37%. Similarly, for the paintings following the captain, the shame expression caused a 21% decrease in high-status judgments from the rate found in the neutral condition. Thus, pride and shame have a clear impact on implicit status inferences. However, consistent with prior findings (Shariff & Tracy, 2009), the pride expression seems to be the primary driver of the implicit status associations seen in Study 1.

Together, the results of Studies 1 and 2 suggest that expressing shame, and, especially, pride, has a powerful effect on the level of status an individual is automatically perceived to have, regardless of his or her actual deservedness of status. Furthermore, given the implicit nature of the responses measured, it seems that observers cannot avoid inferring status on this basis and may not even be aware of doing so.

However, one limitation of these studies is our use of a single context manipulation. The results of Studies 1 and 2 suggest that the captain/waterboy manipulation has a weaker effect on implicit status judgments than do pride and shame expressions, but we do not know whether this would be the case for a stronger contextual manipulation. We manipulated context using the captain/waterboy distinction because it clearly represents two opposing ends of a team's status hierarchy—a hierarchy readily understood by our undergraduate sample and exemplifying the kinds of status comparisons people make on a daily basis (e.g., boss vs. employee). However, a more exaggerated status differential would provide a more stringent test of whether incongruent emotions influence implicit judgments in such circumstances.

A related limitation of Studies 1 and 2 is the asymmetry between the modalities used to communicate emotion expressions and contextual information. Emotion expressions were presented in pictorial format, allowing for a clear visual difference between the manipulated expressions.

Contextual information, in contrast, was presented verbally, first by a written description of the two targets and second by the printed words emblazoned on their t-shirts. Thus, the stronger effects that emerged for emotion expressions may have been byproducts of the differential processing of text and images (Glaser, 1992). Study 3 addresses both of these limitations by replicating the methodology of Study 1 using a stronger context manipulation that is also visually obvious: the distinction between a businessman and a homeless street person.

Study 3

In Study 3, we compared the implicit status associations between twins at opposite ends of our larger societal status hierarchy; one twin appeared to be a well-dressed businessman, and the other a homeless man dressed in dirty rags and blankets. The more extreme and visually conspicuous status differential between these two targets provided a more stringent test of the power of the pride and shame expressions' influence in the context of incongruent status information. Indeed, studies suggest that homeless people represent the most extremely low-status out-group of any in our society (Fiske, 2011).

Method

A total of 40 undergraduates (70% female, *M* age = 20.1) completed an IAT similar to that used in Study 1, in exchange for course credit. Participants were seated at a lab computer with a 17″ monitor. Before completing the IAT, all participants viewed photos of identical twins, accompanied by a passage explaining that one twin worked in finance, whereas the other was homeless.[2] A new Caucasian male actor in his 20s portrayed both twins. Both displayed neutral expressions in these pretest photos, but, in contrast to Study 1, the visual differences between the twins were quite pronounced. The businessman twin wore an expensive blazer and was clean-shaven, whereas the homeless man twin wore torn and dirty clothing; carried an old, tattered blanket; and was made up and digitally altered to appear unwashed (see Figure 4).

Following exposure to these initial stimuli, participants completed the same explicit status measure as was used in Studies 1 and 2. They then completed the familiarization tasks from Study 1, in which they categorized images of the twins (accuracy = 97%), and sorted status words into low-status and high-status categories (accuracy = 94%). They then completed two counterbalanced blocks of 40 IAT trials in the same manner as in Study 1. Half the participants were randomly assigned to a neutral-expression condition; these participants completed the IAT with both twins showing neutral expressions. The other half of participants were assigned to an emotion-expression condition; they completed the IAT with each twin displaying a context-incongruent emotion
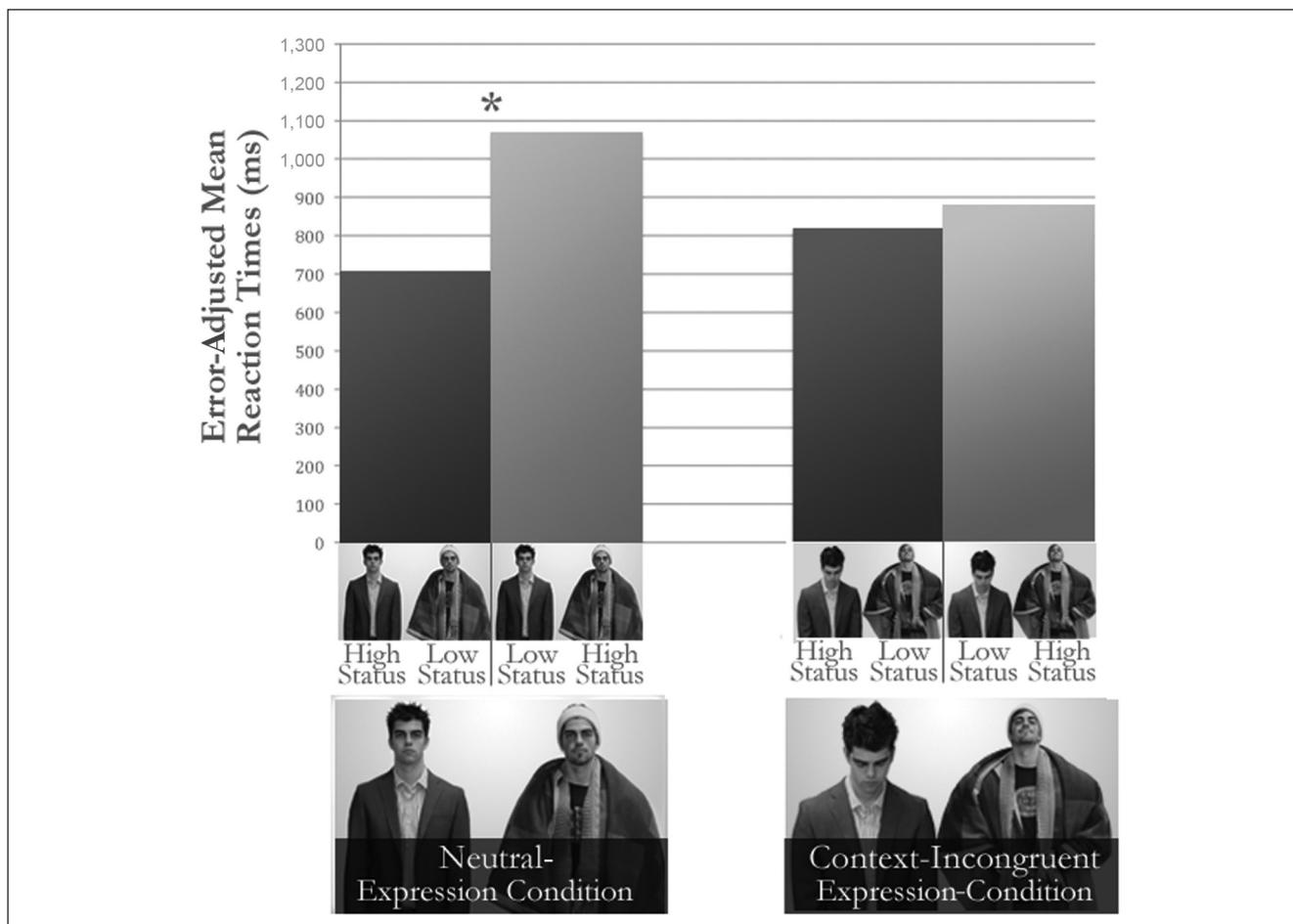
Figure 4. Mean Implicit Association Test (IAT) reaction times in Study 3
Note: The figure shows that, in the neutral-expression condition, reaction times were lower (faster) for the businessman/high-status and homeless man/low-status pairings than for the businessman/low-status and homeless man/high-status pairings. In contrast, when both targets displayed emotion expressions incongruent with the contextual information, neither pairing led to significantly faster response times.
*Corresponding d-measures are significantly different from 0, at the p < .05 level.

expression, such that, replicating the design of Study 1, the businessman showed shame and the homeless man showed pride (see Figure 4).

Results and Discussion

Initial explicit status ratings revealed the context manipulation to be effective; the businessman was explicitly rated substantially higher in status than the homeless man when both displayed neutral expressions, $Ms = 4.70$ ($SD = 1.1$) versus 1.90 ($SD = 0.91$), $t(38) = 8.85$, $p < .05$, $d = 2.87$.

Computing d-measures within each between-subjects condition separately, we found, first, that within the neutral-expression condition, participants were powerfully swayed by context, showing a substantially stronger implicit association when pairing the businessman with high status and the homeless man with low status than the reverse pairings, d-measure = 0.70, $t(19) = 12.76$, $p < .05$, $d = 5.85$. This

finding replicates that of Study 1, but the effect size here is considerably larger, suggesting that we were successful in creating a context manipulation that had a stronger impact on implicit status inferences. It is also noteworthy that in this study a larger difference emerged in IAT-based implicit status associations than in explicit ratings (the explicit effect size was less than half of the implicit one), whereas the reverse was the case in Study 1, where status was manipulated with verbal, rather than pictorial, information. Although this difference between studies may be specific to the differing content of the manipulations (i.e., waterboy/captain vs. homeless/finance), it also may indicate that visual manipulations are more effective for tapping into implicit judgments.

We next compared the mean d-measure that emerged in the neutral-expression condition to that which emerged in the emotion-expression condition. As predicted, the large effect of context on implicit status associations found in the neutral condition was markedly reduced when the twins

displayed context-incongruent emotion expressions, $t(38) = 3.85$, $p < .05$, $d = 1.25$. A one-sample t-test revealed that the d-measure that emerged in the emotion-expression condition, 0.09, did not significantly differ from zero, $t(19) = 0.63$, $p > .05$, $d = 0.36$. This suggests that, here, emotion expressions did not overwhelm contextual information to the same extent as they did in Study 1, but they still had a powerful enough impact to significantly reduce and, in fact, nullify the large implicit effect of context (see Figure 4). In other words, the contradictory status signals sent by the emotion expressions, on one hand, and the visually obvious and very strong context manipulation, on the other, effectively canceled each other out, leading the pride- displaying homeless man to be implicitly perceived as equally high in status to the shame-displaying businessman. The complete dissipation of the very large difference that emerged in the neutral condition demonstrates the powerful influence of emotion expressions on implicit status associations—one that is roughly equal to that of the strong context manipulation used in this study.

To summarize the results that have emerged thus far, Studies 1 to 3 demonstrated that implicit status judgments are largely influenced by the status-signaling emotion expressions of pride and shame even when competing cues—contextual information about an individual's actual deserved status based on their position in society—are readily available. However, one important question that remains is whether these implicit associations influence explicit status inferences and judgments. It remains possible that a proud homeless man can send an implicitly perceived message of high status to observers, but these observers will nonetheless use their conscious, deliberative resources to override that message and explicitly judge the individual as low status. If this is the case, it would suggest that emotion expressions influence person perception only in fairly limited circumstances—situations where only low-level, unconscious processing is possible. Given that many status-related judgments and decisions, such as questions of whom to hire, fire, promote, and vote for, are made with at least some conscious, deliberative cognitive resources, the findings thus far leave open the question of whether emotion expressions that conflict with available contextual cues actually influence real-world status-based decisions. Study 4 addressed this issue.

Study 4

In Study 4, we presented participants with images of the same targets used in Studies 1 and 2 (the waterboy/captain twins), and asked them to make thoughtful, explicit judgments about the likelihood of each target completing a series of status-relevant behaviors. We elected to use the captain/waterboy context manipulation rather than businessman/homeless man manipulation because of its higher mundane realism—people more typically make explicit status comparisons between individuals in the same social

circle than those in completely different social circles. This greater external validity fit with Study 4's aim of simulating real-world status judgments that students would plausibly make.

Participants and Procedure

A total of 50 undergraduates (80% female, M age = 22.2) completed an online questionnaire in exchange for a monetary compensation of CA\$5 and a chance to win a CA\$25 prize. All participants first viewed the same neutral-expression photos of the captain and the waterboy that were used in Studies 1 and 2, and read the same accompanying text-based contextual information.[3]

Participants were next randomly assigned to either a neutral-expression condition or an emotion-expression condition. In both conditions, they read 20 statements about an individual's behavior or interpersonal events that might happen to him, and were instructed to judge which of the twins would more likely be characterized by each statement. To ensure that participants were motivated to carefully deliberate over their judgments, they were told that there was a correct answer for each item, and that the more correct responses they made, the more entries they would earn for the lottery. While completing the questionnaire, those in the neutral condition viewed on-screen photos of both twins displaying neutral expressions, and those in the emotion-expression condition viewed on-screen photos of the captain displaying shame and the waterboy displaying pride. We employed this procedure to roughly emulate the IAT procedure from Studies 1 and 3, with the obvious difference that judgments were made with conscious deliberation, and dealt with real-world status-related behaviors/events rather than implicit status concepts.

Materials

The 20 items in the explicit judgment questionnaire were prerated for their relevance to high or low status, on a scale ranging from −7 to +7, with 0 indicating no relevance (interrater $\alpha = .95$). The top five most strongly high or low status-related characteristics, which all had mean ratings above 3 or below −3, were treated as status-relevant items (e.g., *Is approached by his friends for personal advice*). The single low-status item included among these top five was reverse scored, such that all five items were considered "high-status" items (see appendix). The five items that were rated least strongly high or low status-related (all means between −1 and 1) were treated as status irrelevant (e.g., *Has a deep interest in 20th century literature*). The 10 remaining items, which were rated somewhere in between the high status and status-irrelevant items, were retained in testing as fillers but not included in analyses (e.g., *Is a great cook. Especially of Chinese food*). See appendix for all items.
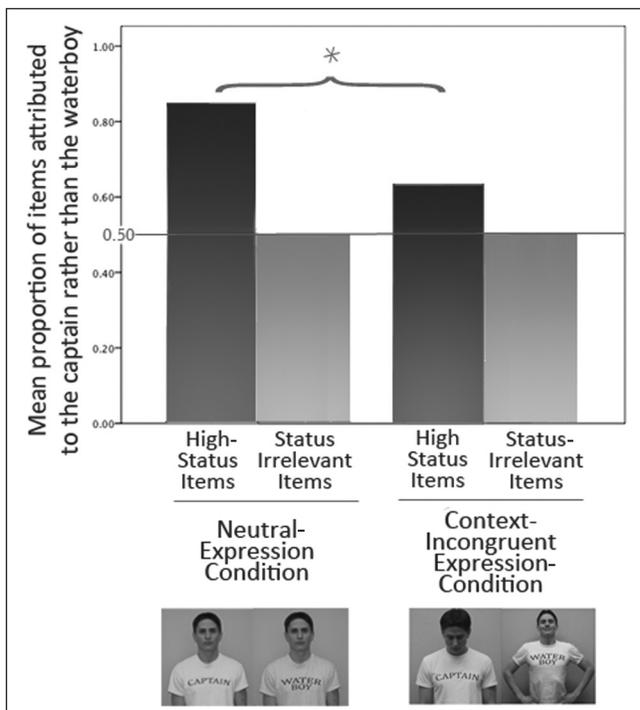
Figure 5.
Mean proportion of high-status and status-irrelevant items attributed to the captain rather than the waterboy
Note: The captain was significantly less likely to be judged as high status when contextual information was accompanied by incongruent (rather than neutral) emotion expressions. No differences emerged for the status-irrelevant items in either condition.
* indicates that these conditions significantly differ at the p<.05 level.

Photos of the twins were repeatedly embedded within the online survey, appearing on-screen directly below every fourth item, such that participants continuously viewed the images while responding to the items.

Results and Discussion

We calculated explicit judgment difference scores, similar to the IAT's d-measure, which provides an index of the extent one of the targets was judged as more likely to perform high-status behaviors and be treated as high status than the other. Specifically, for each participant, we calculated the proportion of high-status items and status-irrelevant items attributed to the captain over the waterboy, yielding scores between 0 and 1 for each category (high status and status irrelevant), with .5 indicating that items were split evenly. Confirming the effectiveness of the context manipulation, within the neutral condition the captain was chosen for significantly more high-status items than was the waterboy, $M = 0.84$, $SD = 0.21$, $t(23) = 7.59$, $p < .05$, $d = 3.17$. The captain was also selected for more high-status items than status-irrelevant items, Ms = 0.84 $(SD = 0.21)$ versus 0.49, $SD = (0.13)$, $t(23) = 4.80$, $p < .05$,

$d = 2.00$; there was no difference in the number of status-irrelevant items attributed to the two targets, consistent with our assumption that these items would serve as a control (M for the waterboy = 0.51, $SD = 0.20$).

In the emotion-expression condition, judgments were again predominantly based on contextual information; the shame-displaying captain was selected for more high-status items than was the pride-displaying waterboy, $M = 0.65$, $SD = 0.28$, $t(26) = 2.76$, $p < .05$, $d = 1.08$. However, this proportion was significantly lower than that which emerged in the neutral condition, $t(48) = 2.69$, $p < .05$, $d = 0.78$; see Figure 5. Moreover, in this condition there was no difference between the proportions of high-status and status-irrelevant (control) items attributed to the captain or waterboy, Ms = 0.64 $(SD = 0.23)$ versus 0.61 $(SD = 0.20)$, $t(27) = 0.29$, $p > .05$.[6] Thus, these findings suggest that when individuals were encouraged to deliberate, contextual information appeared to be a more important predictor of status judgments than were emotion expressions. However, based on the comparison between conditions, and the comparison between status-relevant and status-irrelevant items within the emotion-expression condition, emotion expressions still had a marked influence on these judgments. This suggests that under conditions of conscious and motivated deliberation, individuals may give precedence to context, but are nonetheless swayed by contradictory emotion expressions.

General Discussion

Based on four studies using both implicit and explicit assessment methods, the present findings demonstrate that the emotion expressions of pride and shame powerfully convey high and low status, so much so that they can neutralize and, in certain cases, override contradicting contextual information in determining implicit status judgments. Study 1 showed that the pride and shame displays had a more powerful implicit association with status than did the available contextual cues. Study 2 replicated this finding using a different method and demonstrated separate effects of pride and shame displays. Although, in this study, the pride expression had a stronger impact on implicit inferences than did shame, the shame expression was influential enough to negate the effect of context. Study 3 used a more extreme context manipulation to test the boundaries of these emotion expressions' influence on implicit status judgments in the context of incongruent status information. The homeless man/businessman manipulation indeed produced a stronger context effect, particularly on implicit status associations. However, this effect was still significantly reduced, and, in fact, completely nullified, by the incongruent emotion expressions. Study 4 demonstrated that the effects of the pride and shame expressions on implicit status inferences translate into explicit, deliberated judgments, made when individuals have the time and cognitive resources to give

due weight to contextually based knowledge, and are financially motivated to do so. Although deliberated judgments may rely relatively more heavily on contextual information, context-incongruent emotion expressions still significantly influenced these motivated judgments.

The Automatic Inference of Status

Based on the present findings, social status is, to some extent, inferred from pride and shame expressions through an automatic cognitive process. Specifically, these inferences are made without intention, occur outside of awareness, and are difficult to suppress—three of Bargh's (1994) "four horsemen" of automaticity. Despite explicit instructions to treat all stimuli equally, participants showed systematic, unintentional, and irrepressible biases toward associating certain emotion expressions with status concepts, in the implicit measures used in Studies 1 to 3. Thus, the present findings suggest that individuals may be constantly and unknowingly influenced by automatically decoded emotion expressions, and they may use these expressions to inform their judgments and social decisions, even when other pertinent, and discrepant, information is available.

The finding that emotion expressions, typically understood to convey information about ephemeral affective states, influenced judgments about an enduring dispositional characteristic (i.e., status), speaks to the powerful influence that the pride and shame expressions, and, in all likelihood, nonverbal expressions of emotion more broadly, have on unconscious person perception. An individual known to have plummeted in status may nonetheless retain his or her high status in the eyes of others (or in their implicit judgments) by showing the pride expression. Furthermore, as was shown by Study 4, even when observers deliberate over their decisions, and are motivated to make the most accurate choices, they are still influenced by presumably easy-to-fake emotion expressions. The findings raise the possibility, then, that important status-related decisions, such as the hiring and promotion of employees, selection of romantic partners, and even election of public officials, may be influenced by the display of emotion expressions, genuine or otherwise, even when individuals believe they are rationally deliberating on more relevant information derived from the surrounding context. As such, the present research is consistent with an extensive literature documenting the biases and illusions that filter and distort our world, and revealing how we are frequently misled—however adaptively—by our own minds (e.g., Wilson, 2002).

Theoretical Implications

Our finding that emotion expressions function as automatic and rapid elicitors of cognitive and behavioral responses also speaks to the ongoing debate about the relative strength of emotion expressions versus their surrounding context. Previous research has found that contextual information is often deeply involved in the process of emotion recognition and discrimination (e.g., Aviezer et al., 2008; Feldman Barrett & Kensinger, 2010; Fernandez-Dols et al., 2008). The present results do not contradict that conclusion. Indeed, particularly in Studies 3 and 4, context was shown to have nonnegligible effects on implicit and explicit judgments of status. That context and emotion-expression cues are taken into account when making important social judgments is not altogether surprising. What is surprising is the particularly and, we would argue, *disproportionately* powerful influence of emotion expressions in the face of contradicting context. Though both cues are important predictors of status judgments, humans appear to be uniquely attuned to emotion expressions and their unavoidable implicit messages.

One consequence of this finding is that observers may be vulnerable to making incorrect judgments on the basis of faked, or simply mistaken, emotion expressions. In fact, deliberate misuse of these expressions by targets could be an effective way of gaining unwarranted status. Indeed, studies demonstrate that perceivers are surprisingly inept at detecting deception in facial expressions (Frank & Ekman, 1997). This may help to explain the pervasive cultural norms that treat pride with suspicion and derision, across a range of human societies (Tracy et al., 2010). These social rules may be what keep potential pride-display fakers in check, by adding a cost, in the form of social disapproval, to expressing pride too frequently. Given the present results, this is an important question for future research.

A final implication of the present research is a methodological one. All four studies indicate that static, decontextualized emotion displays, widely used in emotion research, are likely to be highly communicative even though they may lack some degree of external validity. Given the extent to which nonverbal expressions of pride and shame were shown to influence social judgments over and above discrepant contextual information, it seems that these expressions have a high level of communicative value regardless of the context in which they appear. Thus, these findings may allow for greater confidence in conclusions drawn from the large body of previous studies using similar nonverbal displays in absence of contextual content.

Limitations and Future Directions

In these studies, we were, to a certain extent, comparing not simply apples and oranges, but rather *operationalizations* of apples and oranges. The actual balance of context and expression in any real-world situation will vary based on numerous factors—the most prominent of which are the overtness of the emotion expression and the salience of the context. However, the current results serve as a proof of concept, consistently showing that the pride and shame

expressions powerfully influence perceptions of status and corresponding social decisions regardless of the context in which they are displayed. This holds true even when we used as extreme a context manipulation as we could imagine. This exaggerated difference—between a homeless and business man—lies at the edge of how widely people range in status within contemporary Western society (Fiske, 2011). Thus, the fact that pride and shame expressions still influenced automatic status judgments even when they were incongruent with these potent contextual cues allows for confidence in our conclusions, despite the inherent limitation in making these comparisons. Although holding one's head high cannot turn a pauper into a prince, the present findings suggest that it may make him the equal of a shameful businessman.

A somewhat related issue is the question of whether the emotion expressions, contextual information, and participants' judgments reflect *states* or *traits*. Although emotions can be conceived as dispositions (e.g., proneness toward feeling pride), emotion expressions occur only very briefly, and thus are typically assumed to convey momentary states. In contrast, the verbal and visual contextual information manipulated in these studies are likely to imply dispositional characteristics. Although we cannot be certain whether the status measures completed by participants indicate state or trait judgments, the items used (e.g., *powerful, humble*, "*Gets treated better by servers at restaurants and bars*") seem to convey the latter. Although this reading suggests some asymmetry insofar as we contrasted *state* emotions with *trait* context, and examined their combined impact on *trait* judgments, such an interpretation provides further support for the power of emotion expressions over contextual information; participants' judgments about a persistent disposition of status were strongly and repeatedly affected by the momentary state-based information of emotions expressions, even when contradicted by other dispositional information conveyed by the context.

Another important question is whether the findings were in fact the result of unique status signals sent by the pride and shame expressions, rather than broader differences in positive and negative valence. Although, in either case, our main conclusion—that emotion expressions powerfully influence implicit person perceptions and judgments— remains, the issue is worth considering in the context of broader claims about the status-signaling properties of pride and shame (Shariff & Tracy, 2011). In fact, this concern was directly addressed in prior research, in which we directly compared the status-signaling properties of the pride expression against that of the happiness expression, another positively valenced emotion display, and found the former to be significantly and substantially more implicitly associated with status than the latter (Shariff & Tracy, 2009). Interestingly, the same could not be said when comparing shame displays with sadness (another negatively valenced display). Perhaps because of shame's relatively lower levels of recognition and higher levels of confusion with sadness (see Haidt & Keltner, 1999; Tracy, Robins, & Schriber, 2010), shame has not been found to more powerfully signal low status than sadness (Shariff & Tracy, 2009)—an observation that is consistent with the comparatively weaker effect of the shame expression in affecting AMP judgments in Study 2. Altogether, although future research is needed to further examine this issue, based on the extant research, we can conclude that the present findings can be largely attributed to the pride displays' unique status-signaling properties, and not simply to broader valence distinctions.

Future studies should also examine whether explicit judgments and decisions made in the context-incongruent emotion-expression condition of Study 4 were unknowingly influenced by the presence of incongruent emotion expressions, as we assume, or whether participants might have used those cues strategically. Participants' decisions in this condition may have been partly shaped by demand characteristics of the experimental situation (e.g., an assumption that they were expected to use emotion expressions), and thus not completely reflect behaviors outside the lab. Our incentivizing of "correct" responses in this study was a direct attempt to address this issue by motivating participants to choose the options that seemed most accurate to them. Moreover, the findings of Studies 1 to 3 indicate that emotion expressions do have an implicit effect on status judgments, which likely affected the explicit judgments made in Study 4 to at least some degree. Nonetheless, further studies should specifically examine how these automatic and implicit interpretations of emotion signals lead to explicit judgments and decisions in genuinely naturalistic settings (e.g., real-world hiring/firing decisions). Such studies might also use dynamically displayed versions of the pride and shame expressions, unfolding over time, rather than relying on the static photographs that most emotion expression research, including the present studies, use (see Nelson & Russell, 2011). Although the use of more externally valid manipulations and measures may reduce experimental control, it will also increase our understanding of how emotion expressions affect status judgments made in everyday social interactions.

In conclusion, the present findings have important implications for the cognitive processes that underlie many everyday judgments, some of which lead to highly consequential decisions. This is especially true given that individuals tend to assume that their decisions are based on rational, reflective processes, and to neglect the impact of implicitly perceived emotion expressions. These implicit associations may promote potentially erroneous judgments, as individuals fail to appreciate how their unconscious minds lead them to judge a book by its cover.

Appendix A

Explicit status-relevant, status-irrelevant, and filler statements used in Study 4.

Gets treated better by servers at restaurants and bars.
Is approached by his friends for personal advice.
Is NOT being considered for inheriting control of the family business.
Was voted most likely to succeed by his high school class.
Dates the head cheerleader.
Often gets bumped up to business class when flying.
Interns at a finance firm.
Had straight As in high school.
Always tells the truth.
Tends not to command much respect from strangers.
Works at a Foot Locker athletics store.
Plays the piano.
Intimidates his coworkers.
Is a great cook. Especially of Chinese food.
Is a whiz at computers.
Is a huge Guns'n Roses fan.
Is better at parallel parking.
Has tattoos on his upper arms, chest, and back.
Showers every morning in cold water.
Has a deep interest in early 20th century literature.

Declaration of Conflicting Interests

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Notes

1. No sex differences emerged in any of the studies.
2. Although we did not expect participants to believe that the two targets were in fact twins, rather than the same individual, the reduced mundane realism resulting from this method was, in our view, worth the increased experimental control acquired by ensuring that any differences could not be attributed to physiognomic differences between targets.
3. The full text and images are available at http://tinyurl.com/implicitly-judging-materials
4. As recommended by Greenwald et al. (2003), we omitted responses longer than 10 s and added 600 ms per error. Next, for each participant, error-adjusted mean RTs for one status-word/target-photo pairing (i.e., low-status words paired with waterboy photos and high-status words paired

with captain photos) were subtracted from the other pairing's error-adjusted mean RTs. This difference was divided by the standard deviation of both pairings to yield a d-score, which represents the difference—if any—between the two pairings' implicit associations.
5. Typical AMP studies use Chinese ideographs as neutral stimuli (e.g., Payne et al. 2005); however, due to the large number of Chinese speakers in the population from which our sample was drawn, we used computer-generated abstract paintings (see http://www.jacksonpollock.org) instead. These paintings were compiled and validated by Eva Zysk for the UBC Psychobiological Determinants of Health Laboratory.
6. We also analyzed these results including all 20 items on the explicit status scale (i.e., rather than only the top and bottom 5 of the 20). Under this method, the effects of the context-incongruent emotion expressions on explicit status judgments became stronger, fully negating the effect of context. Specifically, in the neutral-expression condition, the captain was consistently chosen for more high-status statements than the waterboy, $M = 0.72$, $SD = 0.16$, $t(26) = 6.11$, $p < .05$, $d = 2.40$, but when the captain expressed shame and the waterboy expressed pride, this preference disappeared, and both targets were equally likely to be chosen for the high-status items, $M = 0.54$, $SD = 0.24$, $t(26) = 0.73$, $p > .05$. The difference between the neutral and incongruent-expression condition was significant, $t(48) = 3.07$, $p < .05$, $d = 0.88$.

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