Recognizing Authentic Pride and Hubristic Pride from Static Expressions

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Abstract

Authentic pride and hubristic pride are conceptually distinct emotions, but it's unclear whether authentic pride and hubristic pride correspond to different static expressions. The current study sought to examine adults' capacity to recognize static expressions of authentic pride and hubristic pride. In Study 1, recognition performance was investigated through a classification task and results showed that Chinese adults could recognize static expressions of authentic pride and hubristic pride. It was also found that Chinese adults' recognition performance was reduced when the eyes area or mouth region of expression was occluded. Study 2 demonstrated that Chinese adults could recognize facial expressions of hubristic pride, but not authentic pride. It is concluded that authentic pride and hubristic pride were associated with distinct static expressions and individuals recognized them in different ways. These findings shed light on the research of static expressions of authentic pride and hubristic pride.

Subject Areas

Psychology

Keywords

Authentic Pride, Hubristic Pride, Expression Recognition, Self-Conscious Emotion

1. Introduction

Pride is a self-conscious emotion [1] [2] and individuals can recognize pride based on nonverbal expressions [3]. Research revealed that adults with different cultural backgrounds [4] [5] and young children can recognize pride expressions [6]. From the functionalist perspective, it's theorized that nonverbal expressions of pride have evolutionary significance and are beneficial for individual survival

and adaptation [7].

The two-facet model suggests that pride consists of authentic pride and hubristic pride [1]. Authentic pride is achievement-oriented, revealing a genuine sense of self-worth while hubristic pride is egoistic, reflecting an exaggeration of an individual's self-worth [8]. Prior research showed that authentic pride and hubristic pride are conceptually different constructs and are linked differentially to personalities, attributions and social interactions [7] [9] [10]. However, it is still unclear whether authentic pride and hubristic pride correspond to different static expressions.

One pioneering study investigated static expressions of pride. Researchers manipulated arm position, gazing direction and head direction, showing that authentic pride and hubristic pride share the same expression [2]. Another study found that static expressions intended to convey hubristic pride were confounded with happiness and embarrassment [11]. However, it was revealed that authentic pride and hubristic pride could be recognized when expressions were presented dynamically [11] [12]. It remained puzzling that separate static expressions of authentic pride and hubristic pride were not found. Considering that static expression is classic evidence for discrete emotion [3] [13] [14], it's appealing to create static expressions of authentic pride and hubristic pride and investigate how individuals recognize them.

It's possible that the mouth region, eyes area or arm position is informative for recognition of authentic pride and hubristic pride. The mouth region was important for emotion recognition. For example, studies revealed that face masks impaired the recognition of several emotions [15] [16] [17]. Researchers also found that the mouth region and eyes area were informative for different emotions, such that the mouth region was more informative for happy, surprised and disgusted expressions while the eyes area was more informative for angry expressions [18]. Finally, one study found that both facial expression and arm position influenced the recognition of pride expressions [3]. Although this study didn't distinguish authentic and hubristic pride, it suggested that facial expression and bodily expression may influence the recognition of authentic and hubristic pride.

Previous studies showed that pride expression is a social signal which can be recognized in diverse cultures [4] [5] [19]. For example, cross-cultural research found that participants from the United States, Italy and West Africa were able to recognize pride expressions posed by Caucasians [4]. It was also found that Asians could accurately recognize Caucasians' pride expressions [19]. It is noteworthy that the majority of these studies investigated pride expressions posed by Caucasians and didn't distinguish authentic pride and hubristic pride. It was found that East Asians paid more attention to the eyes area when recognizing emotional expressions [20] [21], therefore, the pride expressions posed by East Asians may be very different from Caucasians.

The present research aimed to investigate adults' capacity to recognize authentic pride and hubristic pride based on static expressions. Expressions were

posed by Chinese volunteers and recognition performance was examined in Chinese adults in Study 1. Study 1 also examined the role of the mouth region and eyes area for authentic pride and hubristic pride recognition. Study 2 examined adults' recognition performance of facial expressions.

2. Study 1

Study 1 aimed to examine Chinese adults' recognition of authentic pride and hubristic pride based on static expressions. Volunteers were recruited to produce and validate expression materials before formal investigation. A between-subjects design was adopted to reduce order effects and each participant was presented with only one expression.

2.1. Method

Participants and procedure

Study 1 recruited 360 Chinese participants through Credamo, an online survey platform. Two participants failed to meet the age criterion (18 - 70 years old) and were excluded from the analysis. The final sample consisted of 358 Chinese adults (128 males), with a mean age of 33.43 ($SD = 11.37$) years old. All participants consented to the study and received a certain amount of compensation. Study 2 implied 3 (Occlusion condition: no occlusion, eyes occlusion, mouth occlusion) × 2 (Emotion type: authentic pride, hubristic pride) × 2 (Version type: male version, female version) between-subjects design. Participants were randomly assigned to one of three occlusion conditions. Following previous study [11] [12], the task was to choose one option from happy, confident, conceited, embarrassed, surprised, angry and other to match the expression. The options were presented vertically. The task was presented in Chinese, wherein "*zi xin*" was selected to represent "confident" and "*ao man*" was selected to represent "conceited" [22].

Materials

One male and one female Chinese undergraduates volunteered to pose expressions of authentic pride and hubristic pride. As shown in Figure 1, the expression of authentic pride contains making a fist, turning one's head towards the fist, smiling and tightening one's lips in a straight line. Expression of hubristic pride contains putting one's arms akimbo, sucking on the corner of the mouth to create an asymmetric shape, with eyes slightly closed. Black blocks were added to occlude the eyes or mouth of the expression, generating stimulus materials of occlusion conditions. The size of blocks was the same within each emotion type condition.

One-hundred and twenty Chinese adults (46 males), with a mean age of 31.12 ($SD = 7.43$) years old, were enrolled to validate the stimuli. All participants were recruited through an online platform and received a certain amount of compensation after completing the task. Using 2 (Emotion type: authentic pride, hubristic pride) × 2 (Version type: male version, female version) between-subjects

Figure 1. Expressions of authentic pride (left) and hubristic pride (right).

design, participants were randomly assigned to four groups and each participant was asked to rate one expression on the 7-point Authentic Pride and Hubristic Pride Scale [8]. The original scales were translated to Chinese and showed excellent reliability in present study (Authentic Pride scale, Cronbach's α = 0.89; Hubristic Pride scale, Cronbach's α = 0.93). Neither effect of version type nor interaction of emotion type and version type was significant. Independent t tests showed that authentic pride rating was significantly higher for authentic pride expressions (M = 5.05, SD = 1.08) than hubristic pride expressions (M = 4.00, SD = 1.24), $t(118)$ = 4.95, $p < 0.001$, Cohen's d = 0.90. Hubristic pride rating was significantly higher for hubristic pride expressions (M = 5.47, SD = 1.02) than authentic pride expressions (M = 3.15, SD = 1.22), $t(118)$ = 11.31, $p < 0.001$, Cohen's d = 2.07.

2.2. Results

Recognition accuracy is shown in Table 1. Chi-test was conducted to examine the effect of the occlusion condition. Recognition performance of authentic pride differed significantly across occlusion conditions, $\chi^2 (2)$ = 11.25, p = 0.004, φ = 0.25. Post hoc analysis suggested that the recognition performance of authentic pride in no occlusion condition was significantly higher than in occlusion conditions ($ps < 0.05$). Recognition performance of hubristic pride differed significantly across occlusion conditions, $\chi^2 (2)$ = 17.79, $p < 0.001$, φ = 0.32. Post hoc analysis suggested that the recognition performance of hubristic pride in no occlusion condition was significantly higher than in occlusion conditions ($ps < 0.05$). The binominal test revealed that recognition performance across all conditions was significantly above the chance level ($ps < 0.001$, chance level = 14.3%).

The main effect of emotion type was also significant, $\chi^2 (1)$ = 5.21, p = 0.022, φ = 0.12, and recognition accuracy of authentic pride was significantly higher than hubristic pride. Follow-up analysis revealed that recognition accuracy of authentic pride in the occlusion conditions was significantly higher than hubristic pride, $\chi^2 (1)$ = 6.09, p = 0.014, φ = 0.16. The main effect of version type was significant, $\chi^2 (1)$ = 6.48, p = 0.011, φ = 0.13. The recognition accuracy of male version was significantly higher than female version. Follow-up analysis revealed

Table 1. Recognition accuracy of authentic and hubristic pride under occlusion conditions.

	Authentic pride	Hubristic pride
Eyes occlusion	81.7%	66.1%
Mouth occlusion	75%	61.7%
No occlusion	96.7%	93.2%

that expressions of male were recognized more accurately than female in the occlusion conditions (80% vs. 63.9%), χ^2 (1) = 7.71, p = 0.005, φ = 0.18. No significant effects related to participants' gender were detected.

Study 1 provided evidence that authentic pride and hubristic pride can be recognized when presented statically and that both eyes area and mouth region are informative for recognition of authentic pride and hubristic pride.

3. Study 2

Study 2 aimed to investigate whether Chinese adults could recognize authentic pride and hubristic pride when only facial expressions were presented.

3.1. Method

Participants and procedure

Study 2 recruited 240 Chinese participants (87 males) through Credamo, with a mean age of 27.63 (SD = 6.52) years old. All participants consented to the study and received a certain amount of compensation. Study 2 implied 2 (Expression condition: facial expression condition, control condition) × 2 (Emotion type: authentic pride, hubristic pride) × 2 (Version type: male version, female version) between-subjects design. Participants were randomly assigned to the facial expression condition or control condition. The task was modified wherein three additional options (sad, disgusted and scared) were included. Participants were asked to choose one option from happy, confident, embarrassed, conceited, surprised, angry, disgusted, scared, sad, and other to match the expression. The options were presented horizontally and the task was presented in Chinese.

Materials

Based on the materials from Study 1, facial expressions were produced by retaining the head and neck of the original expressions. Expressions without occlusions from Study 1 were presented in the control condition. The size of expressions was matched across conditions.

3.2. Results

Recognition accuracy is shown in Table 2. Chi-test was conducted to examine the effect of expression condition. Recognition performance of authentic pride was significantly lower in facial expression condition than control condition, χ^2 (1) = 47.87, p < 0.001, φ = 0.63. Facial expressions of authentic pride were misclassified most often as hubristic pride (36.7%), significantly above chance level

Table 2. Recognition accuracy of authentic and hubristic pride under expression conditions.

	Authentic pride	Hubristic pride
Facial expression condition	40%	83.3%
Control condition	98.3%	81.7%

($p < 0.001$). Recognition performance of hubristic pride was not significantly different between facial expression condition and control condition ($p > 0.10$). Binominal test revealed that recognition performance across all conditions was significantly above chance level ($ps < 0.001$, chance level = 10%). No significant sex differences were detected.

Study 2 found that Chinese adults could recognize facial expressions of hubristic pride, but not authentic pride. Indeed, facial expressions of authentic pride were classified as hubristic pride as well as authentic pride, suggesting that these expressions were not distinguished clearly from the hubristic facet of pride.

4. Discussion

For the first time, present study confirmed the existence of distinct static expressions for authentic pride and hubristic pride, which echoed the conceptual distinctions between two facets of pride [1] [7]. In Study 1, Chinese adults' recognition performance was above 80%, which was comparable to the recognition performance of dynamical pride expressions [11] [12]. Study 1 also revealed that the recognition accuracy was above 60% when eyes or mouth was occluded, well above chance level. Static expression is classic stimulus and provides support for discrete emotion [3] [13] [14]. Therefore, present findings enriched the two-facet model of authentic pride and hubristic pride.

From the functionalist perspective, recognizing the static expression of authentic pride and hubristic pride contributes to effective communication of social information. Authentic pride and hubristic pride possess distinct social functions [9]. For example, authentic pride is associated with friendly, likable traits while hubristic pride is associated with aggression and dominance [7] [10] [12] [23]. Interpreting social signals from static, sometimes occluded expressions is helpful for individuals to prepare for subsequent alliance or competition behavior. Present findings are informative for negotiation, advertisement and marketing. For example, expressions similar to hubristic pride should be minimized to avoid misunderstanding while expressions of authentic pride may be posed to convey confidence and contribute to one's social status [10].

The present study used different facial expressions compared to prior research [2] [11]. According to the facial action coding system [13], authentic pride expression contained Action Unite 12 but not Action Unite 6; hubristic pride expression contained Action Unite 41 but not Action Unite 12. When the mouth region or eye area was occluded, as in Study 1, participants' recognition performance was impaired. Study 2 found that facial expressions of hubristic pride

were recognized accurately by Chinese adults, although arms were removed from the stimuli. These results confirmed that facial expressions are informative for authentic pride and hubristic pride recognition. Extending prior findings of expression recognition [3] [15] [16], present results suggested that both mouth region and eyes area contributed to authentic and hubristic pride recognition. With regard to bodily expression, Study 2 found that recognition of authentic pride dropped significantly in facial expression condition, demonstrating that arm position may be crucial to authentic pride recognition. This is consistent with the finding that authentic pride was associated with self-esteem [8] [9] and making a fist boosted one's self-esteem [24]. Overall, both facial expressions and bodily expressions contributed to the recognition of authentic pride while facial expressions played a more important role than bodily expressions in the recognition of hubristic pride.

It was assumed that certain emotions were theoretically related to pride [3] [11]. Present research included these options as confounders, which was similar to previous research. For example, four emotion categories were provided as confounders in one study of dynamic pride expressions [11] and were adopted in the present study. Another study also included four emotion options (anger, happiness, embarrassment and disappointment) as confounders [12]. Moreover, the present research also included eight options as confounders in Study 2. Across studies, it was revealed that recognition performance of authentic pride and hubristic pride was high when static expressions of the upper body were presented. Therefore, the results were consistent and reproducible. It was suggested that the classification task could force participants to differentiate between authentic pride and hubristic pride [11]. To address this question, a rating task was adopted and it was found that participants differentiated authentic pride from hubristic pride when the classification task was absent. Thus, the core finding is supported by evidence from different methods.

The present study was confined to several limitations. First, it's unclear the role of head direction and gaze direction in pride expression recognition. Because the main purpose was to produce static expressions, the present study didn't manipulate head and gaze direction in a systematic way and further research is required to address this question. Given that hubristic pride and authentic pride are recognized in different ways, subsequent research may produce different sets of stimuli and investigate them separately. Second, it is shown that pride is associated with multiple nonverbal variants [2] [11], some of which may be difficult for out-group to understand [25]. Present findings were confined to Chinese adults and additional work is needed to identify the static expressions of authentic pride and hubristic pride in diverse cultures. Finally, research is needed to integrate the findings of static and dynamic expressions. For example, a prior study found that certain biological motions (a series of moving dots) which removed facial information could convey pride [26]. However, the present study found that facial expression was crucial for the recognition of hubristic pride. Further research may investigate the potential differences between static and dynamic

expressions from the perspective of the two-facet model of pride.

5. Conclusion

The present study investigated static expressions of authentic pride and hubristic pride. It was found that authentic pride and hubristic pride were associated with distinct static expressions and individuals recognized them in different ways. Static expressions of authentic pride were recognized based on facial expressions and bodily expressions whereas static expressions of hubristic pride were recognized mainly based on facial expressions.

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Conflicts of Interest

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

Ethics Statement

All procedures performed in present study involving human participants were in accordance with the 1964 Helsinki declaration and its later amendments. Participants consented to the study by entering and completing the survey. Written informed consent was obtained from the individual for the publication of any potentially identifiable images included in this article.

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