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Resting on your laurels:

The effects of pride on persistence at creative tasks

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Management

by

Heajung Jung

2013

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ABSTRACT OF THE DISSERTATION

Resting on your laurels:

The effects of pride on persistence at creative tasks

by

Heajung Jung

Doctor of Philosophy in Management
University of California, Los Angeles, 2013
Professor Maia Young Bauman, Chair

Despite the pervasive use of pride as a motivational tool in organizations, little is known about the effects of pride experience on work performance. This paper investigates how pride affects performance at creative tasks compared to other positive emotions. Although pride has been linked to increased perseverance (Williams & DeSteno, 2008), I hypothesize that experiencing pride can lead to less persistence on unrelated creativity task because by affirming one's self-worth, feeling pride satisfies the need to prove one's value and reduces the perceived importance of the task. Study 1 found that people high in *trait pride* significantly persisted less on unsolvable anagram tasks than people low in trait pride. Study 2 found that people who experienced *state pride* persisted less on a brainstorming task compared to people feeling compassion and amusement. Study 3 examined if the negative relationship between pride and persistence holds even when the task is threatening to one's pride so its importance cannot be

trivialized. Under low threat, people feeling pride persisted less than people feeling amused, but under high threat, people feeling pride persisted significantly more than those feeling amused.

These studies demonstrate that pride does not always enhance persistence and therefore managers should frame a task as being relevant and threatening to the employee's pride when using pride to promote performance.

The dissertation of Heajung Jung is approved.

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"A great business success was probably never attained by chasing the dollar, but is due to pride in one's work – the pride that makes business an art" – Henry L. Doherty (CEO of CITGO Petroleum corporation, 1870~1939)

Many managers strive to instill pride in their employees with a belief that pride is a powerful motivator, possibly even more effective than extrinsic rewards (Katzenbach, 2003). Organizational efforts to use pride as a motivational tool abound. In one such practice, organizations emphasize the external impact their products/services have on the outside world, which helps employees feel proud about their organization as a whole. For example, high-tech companies such as Apple or Microsoft emphasize the fact that their products change the world and their employees take pride in their contribution to that change. This strategy of boosting pride through task significance (Hackman & Oldham, 1976) seems to be particularly effective in volunteer organizations which lack instrumental means (e.g., wages) to engage and motivate workers (Pearce, 1993; Boezeman & Ellemers, 2008). Second, organizations often praise individual achievements, which make people feel proud about themselves. For instance, it is a very common practice in service industries to offer various awards and recognition, either tangible or intangible, for an individual or a team who provided excellent customer service. In sales, employees with outstanding performance often get a trophy or a sizable bonus and recognition from other employees. All these prevalent company practices are being implemented based on the lay assumption that pride will enhance employee motivation and performance. However, surprisingly little is known about how pride does influence employees. In this work, I propose pride is not always helpful for individual performance; in fact, I posit that pride can decrease rather than increase persistence.

Positive Mood vs. Pride

The majority of the prior work on the role of positive affect in organizations has taken a valence-based approach, which contrasts positive mood with negative or neutral mood. A large body of theoretical and empirical work has shown that experiencing positive affect at work leads to positive outcomes such as better work achievement and social support (Staw, Sutton, & Pelled, 1994), more efficient and rapid problem-solving (Isen & Means, 1983), better decision quality and interpersonal performance (Staw & Barsade, 1993), more helping behavior (Isen & Levin, 1972; George, 1991), integrative rather than compromise solutions in negotiation (Carnevale & Isen, 1986), and organizational spontaneity (George & Brief, 1992).

Despite the fact that prior research has largely focused on the shared functions of positive emotions in general rather than the unique functions of each positive emotion (Fredrickson, 1998, 2001; Fredrickson & Branigan, 2005; Lyubomirsky, King, & Diener, 2005), discrete emotions can be distinguished by distinct cognitive appraisals (Smith & Ellsworth, 1985; Scherer, 1988) and action tendencies (Frijda, Kuipers, & ter Schure, 1989; Frijda, 1993). Several studies have recently reported meaningfully differential effects of discrete positive emotions (e.g., pride, compassion, awe, gratitude, joy) on diverse outcomes such as pro-social behavior (Bartlett & DeSteno, 2006), inhibitory control (Katzir, Eyal, Meiran, & Kessler, 2010), self or other perceptions (Oveis, Horberg & Keltner, 2010; Shiota, Keltner, & Mossman, 2007), and information processing (Griskevicius, Shiota, & Neufeld, 2010).

From a practical, organizational perspective, it is also important to discern the functions of discrete emotions. Many organizations try to promote positive experiences in employees based on the ample evidence that satisfied and happy workers perform better. For instance, leading companies such as SAS, Google, Zappos, and Amazon invest huge resources into employee

welfare and pleasant work environments anticipating positive outcomes driven by positive feelings at work. Empirical research has supported this idea by showing significant, positive relationships between positive feelings of employees and their performances (Staw et al., 1994; Wright & Staw, 1999; Luthans, 2002). Yet we don't know if practices of boosting pride also positively affect employee performance similarly to practices that make employees feel good. Without clear evidence supporting the positive effects of pride above and beyond positive feelings, organizations might be blindly spending a lot of time and effort trying to instill pride based on an unproven belief that it will boost performance effectively.

Creativity at Work

"Think different", "Creativity and contribution", "Imagination at work", and "Leading innovation": These are all company mottos adopted by successful corporations around the world. Each slogan emphasizes creativity as a value or goal that should be pursued by their employees to survive and flourish under uncertainty. As a key factor for sustainable organizational success (Amabile, 1996; Oldham & Cummings, 1996; Woodman, Sawyer, & Griffin, 1993), creativity has drawn considerable attention from both scholars and practitioners. Creativity is defined as "a person's capacity to produce new or original ideas, insights, restructuring, inventions, or artistic objects, which are accepted by experts as being of scientific, aesthetic, social, or technological value" (Vernon, 1989). This definition describes two evaluation criteria of creativity, novelty (or uniqueness) and usefulness (or value).

The growing interest in creativity led scholars to the question of factors that help or hurt creative performance. Earlier work has focused on uncovering the enduring and stable personality traits in an attempt to explain why some people are more creative than others (for a

review, see Hennessey & Amabile, 2010). Other scholars viewed creativity as a fleeting and situation-dependent state and examined everyday creativity as opposed to creativity in certain type of people such as artists or writers (Kaufman, 2003).

From an organizational viewpoint, it seems equally important to investigate creativity as a stable trait and as a temporary state. Organizations can enhance creativity by hiring creative people or setting up a work environment where employees can maximize their creative performance, or both. For example, selecting people who possess personalities and abilities positively associated with creativity might be the first step toward building a more creative organization. Motivating existing workers to be more creative may be a more practical strategy, considering the challenges of accurately identifying creative individuals in the hiring process.

Among numerous factors that can influence people's creativity is affect (Brief & Weiss, 2002; Hennessey & Amabile, 2010). Individuals significantly differ in their proneness to experience certain emotions (i.e., trait affect), but, at the same time, their momentary emotional experiences change constantly over time (i.e., state affect). As people are often affected by their feelings, I seek to understand how one's affective experiences, pride in particular, influence their creative performance.

The Effects of Pride on Creativity

Prior work on affective influence on creativity has reported somewhat conflicting findings. Some researchers have found that positive mood leads to more creativity relative to neutral or negative mood (Lyubomirsky et al., 2005; Davis, 2009), and other researchers have argued that negative mood facilitates creativity more than positive or neutral mood (Kaufmann & Vosburg, 2002; George and Zhou, 2002). According to the mood-as-input model (Martin, Ward, Achee, &

Wyer, 1993), positive mood signals a safe environment where individuals can pursue new experiments, think expansively, and make more flexible associations. In contrast, negative mood signals a threatening environment where individuals have to focus on the problem at hand, rely on existing cognitive and behavioral repertoire, and think more deliberately and accurately.

A theoretical model (De Dreu, Baas, & Nijstad, 2008; Baas, De Dreu, & Nijstad, 2008) reconciles these conflicting findings by asserting that both positive emotions and negative emotions can help creativity, but via different routes. De Dreu and colleagues (2008) demonstrated that creativity can be achieved by either *cognitive flexibility* (i.e., the variety of ideas measured by the use of broad cognitive categories) associated with positive emotions, or *persistence* (i.e., the amount of hard work measured by the amount of time spent or the amount of details for idea generation) associated with negative emotions. Taking a discrete emotion perspective, however, do all positive emotions (or negative emotions) have the same effects on cognitive flexibility and persistence respectively? I investigate whether pride, being a positive emotion, has a different effect on creativity because of its unique features described below.

Pride and Persistence. Pride is defined as a positive, self-conscious emotion arising from appraisals that one is responsible for a socially valued outcome or for being a socially valued person (Mascolo & Fischer, 1995; Williams & DeSteno, 2008). Even though pride belongs to the category of positive, activating emotions, it entails unique cognitive and behavioral qualities that distinguish it from other positive emotions.

Pride is associated with strong achievement motivation. It motivates socially valued behaviors that help maintain a positive self-concept and others' respect (Tracy & Robins, 2007). According to Fredrickson's broaden-and-build theory (2001), pride spurs an individual to dream of further achievement (broadening) and provides the necessary motivation for future success

(building). Similarly, pride leads to more perseverance in certain contexts. The motivational hypothesis of pride (Williams & DeSteno, 2008) argues that when feeing proud about a recognized accomplishment, an individual might feel motivated to pursue further action in that valued domain. In two experiments conducted by Williams and DeSteno (2008), pride experience was induced by manipulating feedback on a test described as measuring cognitive abilities. Participants in the pride condition were told they got a high score (i.e., 94th percentile) and verbally praised for their great performance. When they were given another taxing task that was believed to be related to the first task they had performed well, they spent significantly more time than their counterparts in the self-efficacy (i.e., score feedback without praise) or positive emotion condition.

Despite this finding that pride is positively related to perseverance, the studies investigate integral pride, where the source of pride and the target task are related. It might be that when pride is incidental to the target task, people will persist less rather than more. That is, the prior findings may not generalize to other situations, such as when someone feels proud from a chronic propensity to feel pride, from recalling past successes, or from receiving positive feedback on a different task and then starts a new, unrelated project. This distinction of integral (related) and incidental (unrelated) pride leaves open the question of whether prior findings apply to situations where the source of pride and the target task are unrelated.

In fact, some relevant research suggests that feeling pride might be related to reduced efforts. Pride is derived from receiving recognition for increasing self-mastery within a given context (Tracy & Robins, 2004). It was reported that self-mastery predicts more rapid disengagement from unsolvable tasks (Aspinwall & Richter, 1999). That is, people holding a favorable belief about one's ability to control (self-mastery) persisted less on an unsolvable task

when there was an alternative task. Self-affirmation also enables goal disengagement such that affirming what one values in life led people to retreat from goals after experiencing failure (Vohs, Park, & Schmeichel, 2012). Feeling pride can be viewed as a way of affirming one's value. We all desire to be a valuable person and strive for positive self-regard. To achieve this goal, we draw on successes in important domains in our life that constitute aspects of individual identity, including social roles, abilities, and beliefs (Correll, Spencer, & Zanna, 2004). In this way, feeling pride about one's own achievements affirms core values. In fact, recalling a proud moment has been used as a tool for manipulating self-affirmation (McQueen & Klein, 2006).

If pride leads to less persistence like self-mastery and self-affirmation, one possible cause for this tendency is *trivialization*, which refers to a tendency to decrease the perceived importance of the task (Simon, Greenbert, & Brehm, 1995; Koole, Smeets, Knippenberg, & Dijksterhuis, 1999). A prior study (Simon et al., 1995) showed that self-affirmation promotes trivialization of a blocked goal. That is, when personal values are affirmed and become salient, the blocked current goal seems relatively less significant and consequently reduces motivation to achieve that goal. I expect feeling pride will have a similar effect. Pride experience will affirm one's core value, so the need to prove one's competence and the importance of the given task will decrease, thereby leading to less persistence in and more rapid disengagement from the task.

In sum, I test two competing hypotheses about pride and persistence. First, along with the previous finding that showed pride increases persistence (Williams & DeSteno, 2008), incidental pride might also increase persistence due to its associated achievement orientation. Or as predicted by trivialization account, incidental pride might make people persist less and disengage more quickly from a task when the task is not perceived as relevant and threatening.

Pride and Cognitive Flexibility. Pride might affect cognitive flexibility in two different ways. First, pride is characterized with heightened self-focus (Tangney, Wagner, & Gramzow, 1989; Oveis et al., 2010; Shiota et al., 2007). Flexible thinking requires breaking one's cognitive schemas, thinking broadly, and taking diverse perspectives. Yet pride is likely to increase reliance on one's existing knowledge by turning one's attention to the self and past achievements. Due to its self-focus, pride experience might lead to less flexible thinking compared to other positive emotions. In contrast, pride may increase flexible thinking because of increased self-efficacy associated with pride experience. Knowledge of prior success leads to self-efficacy on identical or related tasks (Bandura, 1982). As pride stems from successful achievement experiences, it might boost self-efficacy and confidence to deviate from prior thoughts, thereby fostering better performance in a creativity task.

Overview of Studies

Three studies test the predicted effects of pride on creative performance. Study 1 examined the role of trait pride (i.e., individual's proneness to experience pride) in performing two different types of creativity tasks, a task requiring cognitive flexibility (i.e., category inclusion task) and a task requiring persistence (i.e., anagram task). Study 2 compared induced pride with amusement and compassion and measured subsequent creative performance where both cognitive flexibility and persistence can be measured at the same time (De Dreu et al., 2008). Study 3 investigated whether the relationship between pride and persistence found in studies 1 and 2 is moderated by the level of task threat.

Study 1

In study 1, I examined the influence of *trait pride* on two components of creativity, persistence and cognitive flexibility. Trait pride refers to individual proneness to experience pride (Tracy & Robins, 2007; Oveis et al., 2010) and people scoring high in trait pride tend to experience pride more frequently and intensely. Study 1 tests whether trait pride has a significant effect on persistence and cognitive flexibility controlling for other positive emotions and relevant variables. As introduced earlier, pride might increase persistence due to its achievement motivation or decrease persistence as predicted by the trivialization account. When flexible thinking is required to perform a task, pride might foster flexible thinking through enhanced self-efficacy or hurt it due to heightened self-focus. The purpose of study 1 is to explore the relationship between trait pride and two creative performance measures.

Trait pride and other individual difference variables were measured by self-reported questionnaires and creativity measures were obtained from two separate tasks. In order to minimize any unexpected interference caused by the act of filling out the trait pride questionnaire on the following creativity task, I conducted the study at two separate time points. Trait pride and other relevant variables were measured first and creativity tasks were performed approximately one week later. The two dependent variables, cognitive flexibility and persistence, were measured from performances on two different creativity tasks: category inclusion task and anagram task.

Methods

Participants.

Fifty six college affiliates were recruited from a behavioral lab participant pool managed at a public West Coast University and forty four of them (79%) completed both online survey sessions.

Procedure.

Participants found out about the study via emails from the school's behavioral lab. They read that the study consists of two separate survey sessions which would take place a week apart. They were led to believe that the two surveys are in fact unrelated, but, in an attempt to avoid any unexpected interaction between them, should be administered separately. Those who were interested and able to participate in both sessions were asked to sign up for the study and completed it following the posted schedule. In the first survey session, participants filled out questionnaires for trait pride and control variables. About a week later, they received an invitation/reminder email to the second round of the study and performed two creativity tasks online.

Measures.

Trait Pride. The pride scale (five items: $\alpha = .82$) of the Dispositional Positive Emotions Scales (DPES; Shiota, Keltner, & John, 2006) was used to measure trait pride (i.e., the general tendency to experience pride). Participants rated each item on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items are "I feel good about myself." And "I am proud of myself and my accomplishments". (see Appendix A).

Creativity Tasks. Two tasks that have been frequently used to measure creativity were employed to measure participants' cognitive flexibility and persistence respectively. The first task is the category inclusion task (Isen & Daubman, 1984; Rosch, 1975), which requires participants to rate how prototypical given exemplars are of a particular category on a 10-point

scale (1= definitely don't belong to the category, 10 = definitely belong to the category). Three exemplars (i.e., excellent, good, weak) were presented for each of the four categories (i.e., vehicle, clothing, furniture, vegetable). This task basically measures category inclusiveness, one's ability to make connections and associations between items. The participants' prototypicality ratings on weak exemplars serve as a good index of cognitive flexibility (De Dreu et al., 2008). That is, it is assumed that people thinking more flexibly will view categories less rigid and more expandable. Given that this task only requires ratings of exemplars' prototypicality, persistence is not relevant nor can be measured.

The second task uses anagrams (Erez & Isen, 2002), which require rearranging letter tiles to form words. Compared to the category inclusion task, the anagram task requires more persistent efforts to find a solution. Participants attempted eight items (5 solvable, 3 unsolvable) employed in prior research (Erez & Isen, 2002) after a practice session with one moderately difficult item. The total amount of time invested in trying to solve the eight anagrams might demonstrate persistence. However, some might argue that flexible thinking can help finding answers quickly, so the total amount of time may reflect some degree of flexible thinking as well as persistence. To resolve this confounding issue, I used the amount of time spent only for the unsolvable problems as a measure of persistence.

Control Variables. Several variables that are expected to be closely related to trait pride were included in the questionnaire. First, four other positive emotional traits were measured using the sub-scales of Dispositional Positive Emotions Scales (DPES; Shiota et al., 2006): joy, amusement, compassion, and awe. These scales were included to distinguish pride effects from general positive mood effects.

Second, given that pride experience involves heightened self-focus and positive self-appraisal, three self-relevant constructs were measured as control variables: self-consciousness, self-esteem, and self-efficacy. The self-consciousness scale (Fenigstein, Scheier, & Buss, 1975) consists of 10 items measuring private self-consciousness (e.g., "I reflect myself a lot") and 7 items measuring public self-consciousness (e.g., "I'm concerned about the way I present myself") on a 4-point scale (0 = extremely uncharacteristic, 4 = extremely characteristic). The Rosenberg self-esteem (1989) scale has ten items rated on a 4-point scale (0 = strongly disagree, 3 = strongly agree). Finally, the general self-efficacy scale (GSE; Schwarzer & Jerusalem, 1995) consists of 10 items (e.g., "I can solve most problems if I invest the necessary effort") using a 4-point scale (1 = not at all true, 4 = exactly true).

Considering that feeling pride primarily derives from successful achievement experiences, two measures were included to capture participants' achievement motivation. One is the Mastery subscale of the Work and Family Orientation Scale (Spence and Helmreich, 1983). Participants were asked to rate eight items (e.g., "Once I undertake a task, I persist) on a 5-point scale (1 = strongly disagree, 5 = strongly agree). The second measure is Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001), which contains 11 items measuring promotion focus and prevention focus on a 5-point scale (1= never or seldom, 5 = very often). Specifically, the promotion subscale measures individuals' subjective history of promotion success with items such as "how often have you accomplished things that got you 'psyched' to work even harder?", whereas the prevention subscale measures individual's subjective history of prevention success with items such as "how often did you obey rules and regulations that were established by your parents?" *Results*.

Trait Pride and Creativity. Means, standard deviations, and correlations among variables are summarized in Table 1. Separate multiple regression analyses predicted cognitive flexibility and persistence respectively from trait pride and other control variables. Analyses concerning persistence showed that the overall regression model is significant, $R^2 = .499$, F = 2.574, p < .05, and only trait pride was a significant predictor, B = -237.83, t = -3.202, p < .01. That is, trait pride was negatively associated with persistence when controlling for other variables. The results of the regression with persistence as a dependent variable are presented in Table 2.

One potential issue is multicollinearity suspected by the fairly high inter-correlations among variables. To identify this issue, I checked two multicollinearity indexes, tolerance and VIF (Variance Inflation Factor), which indicate the degree to which each independent variable is explained by other independent variables. In general, a tolerance less than 0.2 or a VIF higher than 5 indicates multicollinearity. A couple of control variables (joy, awe, achievement motivation) had relatively lower tolerance and higher VIF than others. However, deleting these variables from the model did not affect the significance of the model and the trait pride as a predictor. Therefore, the findings are robust.

On the other hand, analyses concerning flexibility yielded no significant effect of both the model, $R^2 = .334$, F = 1.2934, p = .272, and trait pride, B = .24, t = 0.86, p = .40. Trait pride score did not predict the ability to make remote associations. Also, none of the control variables was significantly associated with flexibility.

¹ This finding was consistent across standard multiple regression where all the variables were entered into the model at once and hierarchical multiple regression where control variables were entered first and the target variable, trait pride, was entered in the next step.

² There was no significant effect of trait pride on the number of correct answers on anagram task. Persistence and the number of correct answer were positively correlated (r = .251), though not significant (p = .100).

Study 1 provides initial support for the hypotheses that trait pride leads to less persistence. This is a meaningful first step in that it demonstrates trait pride can have a unique effect on performance above and beyond other positive emotions. The negative relationship between pride and persistence contradicts the lay assumption that individuals with high pride will work harder. Regarding cognitive flexibility, the results did not support either hypothesis. Trait pride had no significant effect on cognitive flexibility.

The Trait Pride scale (DPES; Shiota et al., 2006), however, evaluates a general positive view of self, rather than immediate affective experiences from a specific event. Scholars who have long studied the nature of pride argued that there exist two types of pride, authentic pride and hubristic pride (Tracy & Robins, 2007). Authentic pride stems from a specific event, involves the attribution of a success to one's effort, develops a genuine, deep-rooted sense of self-esteem, and leads to pro-social or long-term achievement-oriented behavior. Hubristic pride, on the other hand, has no particular target, involves the attribution of a success to one's ability, develops an unconditional positive view of one's self as a whole (narcissism), and leads to antisocial/dominant and short-cut solution seeking behavior (Tracy, Cheng, Robins, & Trzesniewski, 2009; Tracy, Shariff, & Cheng, 2010). Considering the items in the Trait Pride scale (e.g., I feel good about myself), it seems possible that the scale closely matched hubristic pride, rather than authentic pride. If this is the case, our new findings might be attributable to the type of pride, authentic pride vs. hubristic pride. To check this possibility, I manipulated state pride in the lab by asking participants to recall a specific event and examined its effect on another creative performance, brainstorming.

Study 2

The main purpose of study 2 is to examine whether pride experience induced temporarily have the same effects on creative performance, in particular persistence, as pride measured as a trait. Additionally, it is important to further investigate whether the pride effects on persistence can be distinguished from the effects of other positive emotions in a more controlled setting.

Thus, a direct comparison between pride and other discrete positive emotions is required to test my hypotheses drawn from the discrete emotion approach.

Two discrete positive emotions (amusement and compassion) served as comparison emotional states. Amusement is also high in activation and is known to spur curiosity (Harrison, 2009), which is likely to facilitate exploring diverse perspectives and thereby increase cognitive flexibility and persistence. Compassion creates a contrast with pride on the self-other focus dimension (Oveis et al., 2010). Compassion directs attention to others, especially those in need, and facilitates perspective-taking, whereas pride directs attention to oneself and one's achievements and boosts one's self-confidence. Both amusement and compassion possess unique qualities that distinguish themselves from pride and thus were expected to act as a good foil to pride.

In study 2, these three discrete positive emotions - pride, compassion, and amusement - were experimentally manipulated by the autobiographical recall technique (Keltner, Ellsworth, & Edwards, 1993) and their subsequent effects on brainstorming task were measured. Given that participants in the pride condition were asked to recall a specific event in their past which made them feel proud, I believe that their pride experience is closer to authentic pride than hubristic pride compared to trait pride measured in Study 1. If the induced state pride indeed results in less

persistence relative to other positive emotions, it would rule out the possibility that the finding in Study 1 is caused by the specific type of pride (i.e., hubristic pride).

Methods

Participants.

A total of forty one college affiliates at a public West Coast University participated in this study in exchange for \$5. Two participants were removed from the dataset because they gave the same ratings to all the questions.

Procedure.

Participants in a behavioral lab participant pool received an email advertisement about the study and those who were interested were asked to sign up for a specific timeslot and show up at their appointed time. Upon arrival at the lab, they were seated in front of a computer in a private cubicle. After obtaining informed consent, the experimenter explained that they would participate in two unrelated tasks, a writing task and a brainstorming task.

For the writing task, participants were randomly assigned to one of three emotion conditions (i.e., pride, compassion, and amusement) and asked to recall an event in the past which made them feel very proud (about themselves), compassionate (about someone or something), or amused. They were instructed to take a moment to re-experience that event as vividly as they can, and try their best to describe what happened, how they felt, and what they felt like doing in a great detail for five minutes.

Next, participants performed a brainstorming task (modified from De Dreu et al., 2008). They were asked to generate ideas about how to improve the quality of teaching at their school and were told that the university staffs are very interested in their solutions and their ideas would be handed over to them anonymously. They were given eight minutes to write down their ideas

and suggestions. To encourage them to be more creative, the experimenter explained that the purpose of the brainstorming is to generate as many ideas as possible, so they should not worry about how others would evaluate or judge their ideas.

Finally, participants reported their feelings right after the writing task on a 7-pont scale ranging from 1 (not at all) to 7 (very much). They rated a total of fifteen emotion items of which seven were positive emotions including pride, amusement, and compassion.

Data Coding

Two coders who were blind to the emotion conditions evaluated participants' brainstorming ideas independently according to preset guidelines (see De Dreu et al., 2008 for more details). They rated each idea in terms of originality and depth, and categorized each idea into one of the seven categories (see the appendix B for the categories). Creativity measures were produced by averaging the two coder's ratings: 1) *Cognitive Flexibility* was measured by the number of categories used by each participant for idea generation. 2) *Persistence* was measured by the two coders' evaluations on how detailed, elaborate, and well supported each idea is (1 = not detailed at all, 5 = very detailed)³. 3) *Fluency* was computed by the number of unique ideas generated per participant. 4) *Originality* was measured by the two coders' ratings on the extent to which the idea is infrequent, novel, and original based on a 5-point scale (1 = not original at all, 5 = very original).

Results

Manipulation Checks. A one-way ANOVA on each self-reported emotion item revealed significant condition differences in pride, F(2, 35) = 23.43, p < .001, $\eta_p^2 = .57$, amusement, F(2, 36) = 18.99, p < .001, $\eta_p^2 = .51$, and compassion, F(2, 36) = 6.64, p < .01, $\eta_p^2 = .27$. Participants

³ Creativity researchers have measured persistence (i.e., the amount of hard work) using several different measures. The amount of details (elaboration) has been used in Guilford's Alternative Uses Task (1967).

who wrote about pride experience (M=6.36, SD=.51) felt more pride than individuals in the amusement condition (M=2.25, SD=1.44), t(35) = 6.68, p<.001, and compassion condition (M=3.09, SD=2.3), t(35) = 4.88, p<.001. Individuals in the amusement condition (M=5.94, SD = .97) were more amused than those in the pride (M=4.27, SD=1.56), t(36) = 3.01, p<.01, and compassion (M=2.55, SD=1.86), t(36) = 6.13, p<.001. Those in the compassion condition (M=5.09, SD=1.87) felt more compassion than those in the pride (M=3.45, SD=1.86), t(36) = 2.16, p<.05, and amusement (M=2.59, SD=1.66), t(36) = 3.64, p<.01.

Emotion Effects on Creativity. The two coders showed fair to excellent inter-rater reliabilities for the four creativity measures. ICC (Intra-class Correlation Coefficient) measures for fluency, originality, flexibility, and persistence were .936, .645, .812, and .831 respectively. The means and standard deviations of three emotion conditions for four creativity measures are summarized in Table 3. First, a one-way ANOVA analysis on persistence was not significant, F(2, 36) = 1.93, p = .161, $\eta_p^2 = .097$, but participants in the pride condition tended to persist less (i.e., less details provided about ideas) than the other two conditions. A planned contrast between pride and compassion is marginally significant, t(36) = 1.96, p = .058. Next, a one-way ANOVA analysis on cognitive flexibility was significant, F(2, 36) = 3.49, p < .05, $\eta_p^2 = .162$. More specifically, pride led to more cognitive flexibility (i.e., more categories used to generate ideas) than compassion, t(36) = 2.61, p < .05, and amusement, t(36) = 1.80, p = .08. Furthermore, pride led to more fluency (i.e., more ideas) than amusement, t(36) = 2.17, t = 0.05, and compassion, t(36) = 2.40, t = 0.05, t = 0.05, t = 0.05, t = 0.05, t = 0.05. No significant emotion condition difference was observed in originality, t = 0.05, t = 0.05, t = 0.05, t = 0.07.

Study 2 replicated the finding that feeling pride makes people persist less compared to other positive emotions (i.e., compassion). That is, when asked to brainstorm ideas, participants

who had recalled and wrote about pride experience just before spent less effort to describe their ideas as measured by the amount of details. Although the difference between state pride and state amusement condition was not significantly different, the pattern confirms our hypothesis. Interestingly, I also found a significant effect of emotion manipulation on cognitive flexibility. Participants in the pride condition generated their ideas using more categories than those in other emotion conditions, which seems to be related to fluency measure as well. This is noteworthy because it shows discrete positive emotions differ in their contribution to cognitive flexibility despite the fact that all positive emotions are known to increase flexible thinking compared to negative or neutral mood.

Study 1 and Study 2 provide consistent evidence that pride can decrease persistence. In Study 3, I attempted to demonstrate that this pattern emerges due to the tendency to trivialize the importance of the given task. When the task is framed as threatening to their pride and as a result, the trivialization tendency cannot serve any longer because the negative consequences from performing poorly is not trivial, I expect pride will lead to more persistence than other positive emotions.

Study 3

In study 1 and 2, pride, either measured as a trait or induced as a state, resulted in less persistence at creativity tasks. That is, people feeling pride either chronically or temporarily tend to 1) spend less time solving problems (Study 1) and 2) describe their ideas with less detail and elaboration (Study 2). I believe these findings can be explained by the trivialization account that feeling proud makes people experience self-affirmation (e.g., "I'm valuable. I achieved my

goals") and, with their personal values being more salient, they are likely to downplay the subjective importance of other immediate goals (Simon et al., 1995).

Study 3 was designed to test this potential mechanism by manipulating task threat to see if the pride effects are moderated by the level of threat. If the reason why pride makes people persist less is in fact the trivialization tendency, that is, a tendency to perceive the task at hand as not important, once the task is framed as important and threatening, the pride effect on persistence should be weakened. The majority of the behavioral lab pool participants are college students, and students in general are invested in seeing themselves as intelligent. For this reason, task threat was manipulated by telling them the task will diagnose their intelligence (high threat condition) or the task is just a pilot study for future studies (low threat condition).

In addition, I chose amusement as a comparison emotional state. In study 2, I observed a stronger difference between pride vs. compassion compared to pride vs. amusement, but participants' self-reported feelings revealed that those who wrote about compassion felt significantly less happiness and joy, and more sadness than those in the pride and amusement condition. Thus, there is some possibility that the relative negativity of compassion might have influenced our findings. Considering this unique nature of compassion, it would be more beneficial to compare pride with amusement which is regarded as a more typical positive emotion.

Methods

Participants.

Participants were recruited from a behavioral lab participant pool managed at a public West Coast University. A total of 110 individuals who completed the study without interruption were included in the dataset.

Procedure.

After signing up for study participation, participants received a link to the survey. They were led to believe that they would complete two unrelated surveys on memory and language respectively. The memory task was the same autobiographical recall task as used in study 2 designed to induce pride and amusement. On completing the first memory task, participants were given instructions about the second task. They were randomly assigned to either high threat or low threat condition. In the high threat condition, the next language task was described as "diagnosing your analytic ability which correlates strongly with general intelligence and predicts successful career in numerous areas." In the low threat condition, they were told "the problems are being pilot tested for future studies to see if they are feasible and appropriate to include." Then, they performed anagram task and RAT (remote association task) sequentially without any time restriction. Finally, they filled out questionnaires for manipulation check and demographic info.

Two creativity tasks were used in this study. The first task was the same anagram task as in Study 1 and was included to replicate the study 1 finding with manipulated emotion. The second task was the remote association task (RAT) in which participants are given three unrelated words (e.g., falling, actor, dust) and asked to come up with a fourth word that connects all three words (e.g., star). Eight items of varying difficulty level were selected from the original RAT items devised by Mednick and Mednick (1967). Anagram task and RAT are similar in that they both ask people to find the single correct answer, but different as anagrams can be solved by methodically going through all possible orders of the given letters while RAT items cannot be solved without a flash of insight.

Results

Manipulation Checks. Independent samples t-tests showed significant condition differences in self-reported pride and amusement. Participants who wrote about pride experience felt more pride (M=5.37, SD = 1.69) than those who recalled amusement experience (M=2.85, SD=1.86), t(107) = 7.40, p<.001. Participants in the amusement condition (M=5.64, SD=1.29) reported feeling more amused than those in the pride condition (M=4.13, SD=1.86), t(106) = 4.94, p < .001.

Emotion Effects on Persistence. For the anagram task, the amount of time spent on three unsolvable items was highly correlated (r = .945, p < .001) with the total amount of time spent on the entire anagram task. Thus, I combined the total amount of time spent on both the anagram task and RAT and used it as the persistence measure. To test whether the effects of two positive emotions, pride and amusement, on persistence are moderated by the task threat manipulation, a 2 emotion (pride, amusement) × 2 task threat (high, low) two-way ANOVA analysis was performed. First, there was a significant interaction between emotion and task threat conditions, F(1, 106) = 4.48, p < .05, $\eta_p^2 = .04$. As shown in Figure 1, in the low threat condition, people in the pride condition showed a tendency to persist less than people in the amusement condition, which is consistent with our previous findings, though not significant, t(53) = .709, p = .482. In contrast, in the high threat condition, the reversed pattern was significant, t(53) = 3.34, t(53) = 3.34

Simple effects within each emotion condition, however, showed no significant difference by task threat manipulation. That is, participants induced to feel pride persisted more in the high threat condition than in the low threat condition, but this difference was not statistically significant, t(52) = 1.423, p = .161. Also, participants induced to feel amused decreased persistence under high threat compared to under low threat, but this effect was not significant, t(54) = 1.618, p = .112. As the difference by threat condition looks bigger in the amusement condition, it is not clear whether the significant interaction effect reported above is driven by pride, amusement, or both.

Emotion Effects on Cognitive Flexibility. Cognitive flexibility was measured by the number of correct answers from RAT. Similar to category inclusion task in study 1, RAT requires the ability to make a remote association in meaning among the given items to find a solution. A 2 emotion (pride, amusement) \times 2 task threat (high, low) two-way ANOVA on cognitive flexibility was not significant, F(1, 106) = 0.502, p = .480, $\eta_p^2 = .005$.

Study 3 confirms my hypothesis that trivialization is the key mechanism underlying the pride effect on persistence by showing a significant moderation effect by task threat. When the task was framed as a pilot test for future studies, a similar pattern to previous studies – pride leads to less persistence than amusement – was observed, but when the task was framed as diagnosing one's ability which is more threatening to their pride, pride made people work significantly harder.

Although a significant moderation effect supports our proposed mechanism, the negative effect of pride on persistence in the low threat condition was not significant. This might be attributable to the threat manipulation. The low threat manipulation was intended to make the task not threatening to one's pride and accordingly maintain or promote the trivialization tendency to belittle the task importance. However, it could have made people perceive the task as somewhat important for a different reason. These participants learned their performance could impact future studies, so, although the task did not threaten their pride, they might have taken the

task more seriously and put more effort into it hoping that their input contributes to the future studies. Thus, participants in Study 3 had more reasons to perform well, compared to participants in Study 1 and 2 who did not have to consider the impact of their actions on themselves or others. To test this possibility, a future study may need to include a "no threat" condition, where no explanation is given.

General Discussion

The presented three studies have provided the first empirical evidence that pride can hurt creativity by reducing persistence. When an individual's pride experience is not directly related to the task at hand, they spend less time in finding a solution (Study 1 & 3) and spend less effort in describing their ideas (Study 2). More specifically, when the pride was measured as a trait, pride negatively predicted persistence. When the pride was induced as a state, people experiencing pride showed less persistence than those experiencing other positive emotions such as compassion (Study 2) and amusement (Study 3). This finding is consistent with the notion that feeling pride affirms one's value and reduces the need to prove oneself, rendering the immediate goal to seem less important and resulting in less persistence. Study 3 tested this proposed mechanism by manipulating task threat directly. I found that when the task is threatening because it is seen as diagnostic of a valued trait or ability, people feeling pride work harder. This may be because under high threat, they cannot neglect the importance of the task.

Theoretical Contribution

This paper contributes to prior research on the effects of pride on performance by showing that authentic pride can have negative consequences in certain contexts. A vast body of work

encompassing the fields of philosophy, religion, and psychology has depicted pride as either a vice or a virtue (Akira, 1990; Alighieri, 2003; Aristotle, 1925; Baasten, 1986; Dalai Lama & Cutler, 1998). This contrasting view of pride still remains in people's lay descriptions of their pride experiences which are either positive as expressed in "accomplished" and "confident", or negative as expressed in "arrogant" and "conceited" (Tracy & Robins, 2007). As introduced earlier, scholars identified these two facets of pride and named them as authentic and hubristic pride (Tracy et al., 2009; Tracy et al., 2010). In general, authentic pride is linked to positive outcomes (Weiner, 1985), whereas hubristic pride is blamed for negative consequences (Ashton-James & Tracy, 2012; Carver, Sinclair, & Johnson, 2010; Wubben, De Cremer, & Van Dijk, 2012). This research is unique in that it documents that authentic pride can result in less desirable outcomes in certain contexts.

A second contribution of the current work is that it suggests an important difference between incidental and integral pride. The findings documented here focus on incidental pride, and they reveal a different pattern from prior studies that focus on integral pride. When pride was derived from positive feedback on task performance in the lab (Williams & DeSteno, 2008), it made people work harder on the ensuing relevant task. In my studies, pride came from outside of the study context, whether their chronic dispositional tendencies or their past experiences, and made people persist less at creativity tasks.

This difference between the current work and prior findings is important because the effects of incidental and integral emotions on decision-making have been theorized to be similar, if different in strength (Lerner, Han, & Keltner, 2007) Prior findings have revealed congruent effects of integral and incidental emotion (Lerner & Keltner, 2001; Oveis et al., 2010). However, this paper presents an exception to this notion by showing that incidental pride and integral pride

can influence creative performance in a surprisingly different way. Incidental pride made people trivialize the importance of the task at hand and put less efforts, while integral pride made people motivated to achieve another success in the same domain and put more efforts in prior research. Part of the reason why integral pride led to more persistence when incidental pride did not might be related to the desire to be consistent and prove that their good performance was not just a fluke but a reflection of true ability. It would be beneficial if a future study can pit these two types of pride against each other in a single study. In addition, it remains unclear if this incongruency between the role of integral and incidental pride is specific to the emotion of pride or can be found in other emotions as well. This research might serve as a good starting point for further investigation on these two types of emotion.

Lastly, this paper adds to the body of research on discrete positive emotions. As reviewed earlier, prior research has dominantly emphasized the shared functions of positive emotion in contrast with negative or neutral emotion (Staw et al., 1994; Fredrickson, 1998; Erez & Isen, 2002; Lyubomirsky et al., 2005) and only recently scholars began to pay more attention to different functions of discrete emotions with the same valence (Shiota et al., 2006, 2007; Griskevicius et al., 2010). In my studies, I compared pride with amusement and compassion and demonstrated how pride significantly differs from the other two emotions in its effect on performance at creativity tasks. This discrete emotion approach enriches our knowledge about the functions of specific emotions in our life.

Practical Implications

This research will provide practical suggestions for many organizations who want to manage workplace emotions more strategically. First, encouraging pride experience at work -

either by hiring people with high trait pride or by reminding employees of their pride in their organization and their own achievements - may not always be effective in enhancing creative performance compared to promoting other positive emotional experiences. When the task is related to ideation process and flexible thinking, that is, generating as many ideas as possible using broader categories (e.g., brainstorming task), feeling pride might be more helpful than feeling amusement or compassion. But when the task requires persistence, that is, thinking hard and exerting efforts to solve the problem, pride may not be the best emotion to promote. Unless the task is framed as challenging and threatening, it can make people trivialize the importance of the given task and disengage from it more quickly. With a proper framing of the task, however, pride can boost persistence dramatically, so which emotion to promote and how to frame the task should be considered simultaneously to create the best strategy for the organizational goals. This strategic approach will maximize the benefits of feeling pride at work or at least help people be wary of unexpected side effects from motivating through pride.

Limitations and Future Directions

Drawing upon a discrete emotion approach, I focused on comparing pride with two other positive emotions, amusement and compassion. The converging evidence from three studies showed incidental pride had a unique effect of reducing persistence above and beyond two other positive emotions. This finding helps us discern the functions of discrete positive emotions and take a more nuanced and sophisticated approach in managing and promoting positive emotions at work. Yet to better understand the scale of this pride effect on persistence, we need to make a comparison between pride and neutral/negative mood as well. Given that negative emotions are known to increase persistence (De Dreu et al., 2008), I expect pride will lead to significantly less

persistence than negative emotions. Relatively, whether pride will lead to more or less persistence than neutral mood is not clear yet. Including a control condition where participants remain neutral without emotion induction will elucidate the direction of pride effects from the baseline of neutral mood. If pride does more harm than good compared to neutral mood, promoting pride without a proper task framing when persistence is critical might be less effective than keeping neutral mood.

One unexpected finding is the inconsistent effects of pride on cognitive flexibility across three studies. In Study 1, none of trait emotions including trait pride predicted cognitive flexibility and in Study 3, no significant difference between emotion conditions – pride and amusement - was observed. Only in Study 2, participants in the pride condition showed a higher cognitive flexibility than those in the amusement and compassion conditions. These inconsistent results might be attributed to the difference in the task and the cognitive flexibility measure. In study 1 and 3, cognitive flexibility was evaluated from the category inclusion task and the remote association task. These two tasks similarly test the ability to make connections and associations among remote items. If you can categorize a weak exemplar easily to the given category and find a word that connects the seemingly irrelevant items, your cognitive flexibility will be evaluated as high. On the other hand, Study 2 evaluated cognitive flexibility using a brainstorming task and measured it by the number of categories used to generate ideas. That is, the extent to which your ideas involve broader, multiple categories indicates your cognitive flexibility.

The biggest difference between the association tasks (category inclusion, RAT) and the brainstorming task is whether evaluation process is involved to perform the task as well as ideation process. In general, creative process consists of the ideation stage where multiple new ideas are generated and the evaluation stage where ideas are evaluated and the best solution is

chosen. Accordingly, creativity tasks can be also classified into 1) divergent thinking tests such as Guilford's alternative uses task (1967) that are open-ended and designed to assess the ability to generate multiple original alternative ideas and 2) insight or eureka tasks such as Duncker's candle problem (1945) that have a single correct solution and require both the novelty and usefulness of the solution. The brainstorming task in Study 2 is a typical divergent thinking test, whereas the association tasks in Study 1 and 3 are insight tasks as they require ideas to be evaluated and a single solution to be selected. The evaluation process involved in the association tasks requires some degree of deliberate thinking and persistence as you have to evaluate each idea more carefully in terms of usefulness. For this reason, I think the cognitive flexibility measures from the association tasks might be confounded with deliberate thinking. As pride leads to less deliberate thinking (Study 2), it is possible that individuals experiencing pride scored lower in the cognitive flexibility measure on these association tasks which requires some deliberate thinking than on the brainstorming task. A further examination on the processes involved in different types of creativity task will reveal the validity of this speculation.

Another unexpected finding is the role of amusement and compassion in creative performance. Both amusement and compassion were found to be associated with persistence and cognitive flexibility in the opposite direction to pride. In Study 2, compassion led to more persistence and lower cognitive flexibility compared to pride. As discussed earlier, this might be explained by the relative negativity of compassion. As negative emotions are known to facilitate more persistence, compassion which often includes some degree of sadness and guilty experience might have reflected the effect of negative emotions to some extent. When it comes to amusement, when the task was threatening (Study 3), amusement reduced persistence, contrary to pride which increased persistence. One possible explanation is the high task threat

could have diminished the intrinsic curiosity and fun facilitated by amusement in solving the problems. I hope future studies can uncover the mechanisms underlying the role of amusement and compassion more clearly.

Lastly, this study examined pride experience elicited by oneself and one's individual achievements. Pride can also stem from one's group membership and group-level achievements (Tracy et al., 2009), as shown in employees feeling proud about their organization. This notion that pride can be derived from collective self-representations (i.e., when a member of one's ingroup succeeds; Pickett, Gonsalkorale, Robins, & Tracy, 2008) is based on the social identity and self-categorization theory (Tajfel & Turner, 1979; Turner, 1987). It argues that people hold several different group identities as well as individual identities, and tend to think of themselves in terms of groups and organizations to which they belong (Boezeman & Ellemers, 2008). For a more thorough understanding about the pride effects on creative performance, these two sources of pride should be examined. Would pride about one's group have the same effects on creativity as pride about oneself? If not, how would they differ?

Two possible scenarios can be examined to answer this question. First, individuals feeling proud about their group might persist more and perform better because they desire to live up to the standard set by the group and not harm the reputation of their group. In contrast, they might persist less and perform worse because of the social loafing effect stemming from an individual feeling that his or her effort will not matter to the group. Empirical evidence that answers this question will provide more insights into which practice of instilling pride in employees between praising individual performance and emphasizing the value of their organization would be more beneficial for their goals. If managers or policy makers in organizations are aware of the distinction of individual pride and organization pride, their positive and negative consequences,

and the boundary conditions where the positive outcomes can be achieved and maximized, they will be able to manage employee pride more strategically and use it as a motivational tool.

Appendix A. DPES (Dispositional Positive Emotion Scale, Shiota et al., 2006)

Joy (6)

I often feel bursts of joy.

I am an intensely cheerful person.

I am often completely overjoyed when something good happens.

On a typical day, many events make me happy.

Good things happen to me all the time.

My life is always improving.

Pride (5)

I feel good about myself.

I am proud of myself and my accomplishments.

Many people respect me.

I always stand up for what I believe.

People usually recognize my authority.

Compassion (5)

It's important to take care of people who are vulnerable.

When I see someone hurt or in need, I feel a powerful urge to take care of them.

Taking care of others gives me a warm feeling inside.

I often notice people who need help.

I am a very compassionate person.

Amusement (5)

I find humor in almost everything.

I really enjoy teasing people I care about.

I am very easily amused.

The people around me make a lot of jokes.

I make jokes about everything.

Awe (6)

I often feel awe.

I see beauty all around me.

I feel wonder almost every day.

I often look for patterns in the objects around me.

I have many opportunities to see the beauty of nature.

I seek out experiences that challenge my understanding of the world.

1 (strongly disagree) to 4 (neither agree nodisagree) to 7 (strongly agree)

Appendix B. Coding Scheme for Brainstorming Ideas

(1) Number of ideas

: simply count the number of ideas generated by a participant

(2) Originality

: rate each idea on its originality - how infrequent, novel, and original the idea is - using 5-point scale (1 = not original at all, 5 = very original)

(3) Depth

: rate each idea on its depth – how detailed, elaborate, well-supported the idea is – using 5-point scale (1 = not detailed at all, 5 = very detailed)

(4) Number of categories

- : assign each unique idea to one of the following seven categories and count the number of categories used
- (a) University environment, such as class size, lecture halls, seminar rooms, and opening hours
- (b) *Student facilities*, such as extracurricular activities, library/lab access, and classroom interiors/technology
- (c) Student quality, including selecting better students and increasing cooperation and contact among students
- (d) *Teaching materials*, such as readers, textbooks, handouts of PowerPoint presentations, class discussion, examination issues, and grading systems
- (e) *Teachers*, such as teacher quality/style, teacher training and selection, use of teaching evaluations, use of mentors/coaches/tutors/TAs
- (f) *Policy*, such as scholarships and other financial issues, information distribution, and reduced bureaucracy
- (g) Other issues

Table 1. Means, Standard Deviations, and Correlations among Variables (Study 1)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Pride	5.01	.77											
2. Joy	4.69	1.13	.629**										
3. Compassion	5.47	.84	.254	.420*									
4. Amusement	4.82	1.09	.409**	.659**	.388**								
5. Awe	4.79	.85	.462**	.761**	.387**	.393**							
6. Self-esteem	1.97	.39	.357*	.390*	069	.172	.264						
7. Private self-consciousness	3.53	.53	.077	.197	.218	.080	.045	083					
8. Public self-consciousness	3.70	.73	076	.105	.161	.123	017	193	.536**				
9. Self-efficacy	3.09	.36	.472**	.469**	.118	.360*	.301*	.504**	.122	062			
10. Achievement motivation	3.41	.45	.693**	.393**	.292	.237	.412**	.008	.238	.103	.411**		
11. Promotion focus	3.34	.46	.321*	.219	.310*	.137	.246	089	.121	.224	.017	.539**	
12. Prevention focus	3.05	.71	.312*	.376*	.095	.468**	.336*	034	.243	.140	.354*	.505**	.365*

^{*} $p \le .05$, ** $p \le .01$

Table 2. Multiple Regression Analysis for Persistence as a Dependent Variable (Study 1)

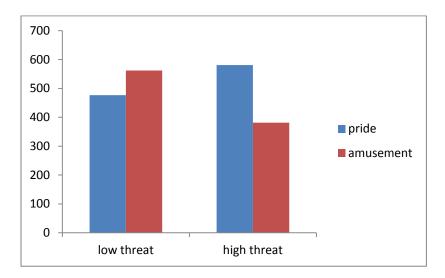
Variables	B	t	p	
(Constant)		09	.93	
Self esteem	.19	1.07	.29	
Self consciousness - public	.29	1.74	.09	
Self consciousness - private	21	-1.29	.21	
Self efficacy	.24	1.28	.21	
Achievement orientation	02	10	.92	
Regulatory focus - promotion	.20	1.15	.26	
Regulatory focus - prevention	29	-1.59	.12	
Joy	.42	1.36	.18	
Pride	78	-3.20	<.01	
Compassion	16	94	.35	
Amusement	.06	.27	.79	
Awe	.22	.95	.35	
R^2 (Adjusted R^2)	.50 (.31)			

Table 3. Creativity Measures by Emotion Condition (Study 2)

	Persistence	Flexibility	Fluency	Originality
Pride	2.57 (.97) ^a	$2.95 (.83)^a$	4.95 (2.32) ^a	3.05 (.40)
Amusement	$3.01 (.97)^{ab}$	$2.41 (.75)^{ab}$	$3.50(1.27)^{b}$	3.17 (.75)
Compassion	3.35 (.84) ^b	2.09 (.83) ^b	$3.18 (1.68)^{b}$	3.15 (.68)

^{*} Values are means, with standard deviations in parentheses.
** Different subscripts within a column represent statistically significant difference between conditions.

Figure 1. Persistence as a Function of Emotion and Task Threat (Study 3)



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