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The Power and Affiliation Component of Achievement Pride: Antecedents of Achievement Pride and Effects on Academic Performance

Vanessa Laura Buechner[1*†], Veronika Stahn[1†] and Kou Murayama[2]

[1] Department Psychology/Emotion and Motivation, Ludwig-Maximilians-Universität München, Munich, Germany,
[2] Department of Psychology, University of Reading, Reading, United Kingdom

Previous research on the self-conscious achievement emotion pride introduces the Achievement Pride Scales (APS) that illustrate the relation of self-based pride and social comparison-based pride with frames of reference, achievement goals, and achievement values. The present study ($N = 354$) extends those results with regard to explicit achievement, affiliation, and power motives, as well as performance. Results show that self-based pride is related to self-approach goals, individual achievement values, as well as achievement and affiliation motives. Social comparison-based pride, in turn, is positively related to other-approach goals, social achievement values, as well as achievement and power motives. In addition, when controlling for those antecedent variables a positive effect of social comparison-based pride on academic performance disappears whereas a positive effect of self-based pride on academic performance appears. As such, the present work replicates and broadens the knowledge on achievement pride.

Keywords: pride, motives, achievement emotion, achievement values, achievement goals

INTRODUCTION

The Power and Affiliation Component of Achievement Pride

A growing number of research focuses on self-conscious emotions that underlie specific self-evaluative cognition and self-reflections, and are of critical importance for students' learning and performance (e.g., Lewis and Sullivan, 2005; Scherer, 2005; Tangney and Tracy, 2012; Muris and Meesters, 2014). Pride is known to be a self-conscious achievement emotion (Tracy and Robins, 2004; Pekrun, 2006) and has recently been separated into a self-based and a social comparison-based facet. Self-based pride is an emotional response to intrapersonal improvement in performance over time, whereas social comparison-based pride is an emotional response to successfully outperforming others. Those pride facets comprise different underlying antecedents, such as frames of reference, achievement goals, and achievement values (Buechner et al., 2018). However, there are further critical antecedents that were not tested in the previous study. Motives,

for instance, were not included as antecedents even though past research showed the importance of motives as antecedents of emotions (Michou et al., 2014), including pride (e.g., Murray, 1938; Atkinson, 1957). Further, even though pride is known to be positively linked to performance and perseverance (Pekrun et al., 2006, 2009; Williams and DeSteno, 2008; Pekrun and Stephens, 2012), it remains unclear whether these two pride facets have different relations with academic performance. The main purpose of this work is to test these critical antecedents along with performance outcomes.

Antecedents of Self-Based Pride and Social Comparison-Based Pride

Buechner et al. (2018) developed the Achievement Pride Scales (APS) that assess two facets of pride, self-based pride, and social comparison-based pride. As mentioned above, self-based pride is defined as an emotional response to success in terms of doing well relative to how one has done previously (e.g., "I am proud when I can answer more questions correctly than before"). In contrast, social comparison-based pride is defined as an emotional response to success in terms of doing well relative to others (e.g., "I am proud when I can answer more questions correctly than other students"; Buechner et al., 2018). This is in line with temporal and social comparison theories (Festinger, 1954; Albert, 1977) claiming that individuals value and strive for either individual improvement over time or social competition. Such behavior are influenced by both achievement values, which determine the perceived significance of achievement performance (Frenzel et al., 2007; Goetz et al., 2010), and approach goals, which are the motivation for attaining performance (Maehr, 1989; Elliot, 1999). Buechner et al. (2018) showed relations of achievement pride with students' achievement values and goals[1]. Self-based pride has been shown to be positively related to individual achievement values and social comparison-based pride has been shown to be positively related to performance-approach goals and social achievement values. Besides values and goals, also motives have been shown to determine motivated behavior (see Atkinson, 1957) and to appear as antecedents of pride (e.g., Murray, 1938; Atkinson, 1957). As such, we can theoretically derive achievement goals, achievement values, and motives as critical antecedents of achievement pride.

Achievement goals represent competence-based aims uses to direct behavior (Nicholls, 1984; Maehr, 1989; Elliot, 1999; Elliot and Fryer, 2008) and are categorized as approach and avoidance goals. The 2×2 achievement goal model (e.g., Elliot and Murayama, 2008) differentiates between mastery goals (i.e., focus on competence and task mastery) and performance goals (i.e., focus on ability demonstration and outperforming). Elliot et al. (2011) further separated the mastery goal component into a task-based and a self-based goal component, stating

that individuals might adopt task, self, or, other goals. As self-approach goals focus on intrapersonal development, competence refers to doing well or poorly relative to previous or potential future performance. Other-approach goals, in turn, focus on interpersonal performance, thus competence refers to doing well or poorly relative to others. Therefore, we expect self-approach goals to be linked with self-based pride and other-approach goals to be linked with social comparison-based pride. As task-approach goals define competence only in terms of doing well or poorly relative to what the task itself requires, we had no specific hypotheses.

Achievement values describe the importance individuals attach to performance. More precisely, individual achievement values refer to the importance of self-improvement, whereas social achievement values refer to the importance of outperformance of others (e.g., Frenzel et al., 2007; Goetz et al., 2010). As such, we expect individual achievement values to be linked with self-based pride and social achievement values to be linked with social comparison-based pride (see also Buechner et al., 2018).

Achievement motives are defined as relational and affect-based dispositions (Elliot and Thrash, 2004), which directly influence positive affects (Michou et al., 2014). Although past studies have suggested that achievement motives are linked to pride (e.g., Murray, 1938; Atkinson, 1957), our prior work did not incorporate this construct, making it unclear how achievement motives are differentially related to these two different facets of pride. Previous studies have identified several fundamental motives in human achievement motivation, such as need for achievement, need for affiliation, and need for power. Schönbrodt and Gerstenberg (2012) further suggest a differentiation of an affiliation motive and an intimacy motive, as well as a fear motive. Explicit motives are accessible to consciousness, underlie self-attributed processes, and are related to the self-concept and social categories (Bender et al., 2012). As a consequence, explicit motives were hypothesized to operate as antecedents of the self-conscious achievement emotion pride and were therefore included in the present work. More specifically, as the explicit achievement motive elicits the desire to achieve success, we expect this motive being related to both achievement pride facets, self-based pride, and social comparison-based pride. However, the power motive elicits the desire to outperform others and is therefore expected to be linked with the competitive social comparison-based pride only. Self-based pride in turn, is independent of competition, concentrates on own performance only, and is the more agreeable pride facet. As such, we expect the affiliation motive, which elicits the desire to feel involved and close to others, to be linked with self-based pride only. Intimacy and fear motives were not expected to be related to the pride facets.

Critical Consequence of Self-Based Pride and Social Comparison-Based Pride

Research on academic achievement and components that might positively influence achievement is of ever-growing interest. Accordingly, previous work highlights the adaptive function

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[1]The relation of achievement pride with individual and social frames of reference has been shown as well. However, frames of reference appear to be relevant for judging performance not for initial motivational drives to achieve performance. As such, the present work did not concentrate on frames of references.

of positive emotions in terms of students' academic effort, interest, and achievement (Pekrun et al., 2009; Valiente et al., 2012). More precisely, positive emotions have been shown to facilitate approach-related activities, such as moves toward desired goals, which are likely to provide academic benefits (Davidson et al., 2000; Rothbart and Bates, 2006). As a consequence, pride, as a positive achievement emotion, has also been shown to be an indicator of motivated behavior (Atkinson, 1957; Holodynski, 2006; Williams and DeSteno, 2008) and to be linked to performance (Frenzel et al., 2007). However, most of the previous studies have focused only on enjoyment and interest, and there has been a decided lack of work on the specific association between the achievement pride facets and academic functioning. Therefore, this work explores the relation of self-based pride and social comparison-based pride with academic performance. As each of the two pride facets is the emotional consequence of the evaluation of a positive outcome, we expect both pride facets to be positively related to academic performance.

Like emotions do exist of a cognitive, motivational, and affective component, for instance, those components function to define emotions. When it comes to the link between pride and performance, values, goals, and motives function as the required cognitive, behavioral and affectice component, respectively. More precisely, values represent the cognitive part as they describe the perceived significance individuals attach to performance (Frenzel et al., 2007; Goetz et al., 2010). Goals, in turn, represent more the motivational part as they direct behavior and are the motivation for attaining performance (Nicholls, 1984; Maehr, 1989; Elliot, 1999; Elliot and Fryer, 2008). Motives, as affect-based dispositions (Elliot and Thrash, 2004), represent more the affective part as they are known to directly influence positive affects (Michou et al., 2014). As such, even though values, goals, and motives are related, they function as independent constructs on pride.

Aims and Hypotheses of the Present Research

The present work aims to both replicate and strengthen the conceptual Achievement Pride Model with a large sample data from university students. For that purpose, we included the measures of achievement-approach goals, achievement values, as well as explicit motives as further antecedents and performance as an outcome of achievement pride.

We hypothesize that self-approach goals, individual achievement values, as well as achievement and affiliation motives are positively related to self-based pride, but other-approach goals, social achievement values, as well as power motives are not related to self-based pride. In turn, we expect that other-approach goals, social achievement values, as well as achievement and power motives are positively related to social comparison-based pride, whereas self-approach goals, individual achievement values, as well as affiliation motives are not related to social comparison-based pride. In addition, we expect both pride facets to be related to academic performance.

MATERIALS AND METHODS

Participants and Procedure

A total of 354[2] (250 females, mean age = 22.8 years, $SD = 4.85$) undergraduates of all subject areas at a German university participated in the study and were recruited via e-mail with a short advertisement including a link to an online questionnaire. The sample size in the present study was determined according to previous research that used Monte-Carlo simulations to determine the critical sample size to achieve accurate and stable estimates of correlations (see Schönbrodt and Perugini, 2013). Results showed that sample size should approach 250 for stable estimates.

Measures

Achievement Pride

Buechner et al.'s (2018) APS were used to assess self-based pride and social comparison-based pride. For each item, they indicated how strongly they generally experience each of the two types of achievement pride while learning: (a) self-based pride (5 items; e.g., "I am proud when I can answer more questions correctly than before"; $\alpha = 0.90$) and (b) social comparison-based pride (5 items; e.g., "I am proud when I can answer more questions correctly than other students"; $\alpha = 0.93$). Participants responded to each item on a 1 (little pride) to 6 (extreme pride) scale.

Achievement Goals

Elliot et al.'s (2011) Achievement Goal Model was used to assess the three achievement approach goals as defined in the 3×2 achievement goal framework: (a) self-approach goals (3 items; e.g., "My aim is to perform better on the exams than I have done in the past on these types of exams"; $\alpha = 0.77$), (b) other-approach goals (3 items; e.g., "My aim is to do well compared to others on the exam"; $\alpha = 0.93$), and (c) task-based goals (3 items; e.g., "My aim is to answer a lot of questions correctly on the exam"; $\alpha = 0.84$). Participants indicated the extent to which they thought each item was true for them on a scale from 1 (not at all true) to 5 (very true).

Achievement Values

Two items adapted from Frenzel et al.'s (2007) Achievement Value Scales were used to assess the two achievement values: (a) individual achievement value (i.e., "It is very important for me to receive better results than before") and (b) social achievement value (i.e., "It is very important for me to receive better results than other students"). Participants indicated the extent to which they thought each item was true for them on a scale from 1 (not at all true) to 5 (very true).

Explicit Motives

Schönbrodt and Gerstenberg's (2012) Unified Motive Scales (UMS-3) was used to assess explicit motives: (a) Achievement motives (3 items; e.g., "Maintaining high standards for the quality

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[2]Only data from respondents who completely finished the questionnaire are taken into account (34.93% drop out rate of the sample size of $N = 544$).

of my work"; $\alpha = 0.72$), (b) affiliation motives (3 items; e.g., "Encounters with other people make me happy"; $\alpha = 0.80$), (c) power motives (3 items; e.g., "The opportunity to exercise control over an organization or group"; $\alpha = 0.80$), (d) intimacy motives (3 items; e.g., "I like to fully immerse myself in a relationship"; $\alpha = 0.71$), and (e) fear motives (3 items; e.g., "When I get to know new people, I often fear being rejected by them"; $\alpha = 0.60$). Participants indicated the extent to which they thought each item was true for them on a scale from 1 (not at all true/not important) to 6 (very true/extremely important).

Performance
One item was used to assess performance: "How is your average academic performance in university?" Participants responded to the item on a 1 (satisfying) to 6 (very good) scale.

Statistical Analysis
The main purpose of this work was to examine the predictive power of all independent variables on the pride facets, but due to potential multicollinearity, we decided to first present a set of different analyses with separate independent variables and then to present the analyses with all independent variables together included for completeness.

More specifically, to determine whether achievement goals, achievement values, and explicit motives, are related to self-based pride and social comparison-based pride, respectively, we first applied six separate multiple linear regressions that are presented below. The descriptive statistics, reliabilities, and intercorrelations among variables are presented in **Table 1**. In the first three regression analyses, we explored the relation of self, other, and task-approach goals (see **Table 2** Model 1), individual and social achievement values (see **Table 2** Model 2), and explicit achievement, affiliation, power, intimacy, and fear motives (see **Table 2** Model 3) with the dependent variable self-based pride. In the next three regression analyses, we explored the relation of self, other, and task-approach goals (see **Table 3** Model 1), individual and social achievement values (see **Table 3** Model 2), and explicit achievement, affiliation, power, intimacy, and fear motives (see **Table 3** Model 3) with the dependent variable social comparison-based pride.

In the next two regression analyses we explored the predictive power of all independent variables, that is, the relation of self, other, and task-approach goals, individual and social values, explicit achievement, affiliation, power, intimacy, and fear motives with the dependent variable self-based pride (see **Table 2** Model 4) as well as with the dependent variable social comparison-based pride (see **Table 3** Model 4). Although this final model may be susceptible to multicollinearity given the number of correlated independent variables (see **Table 1**), it provides useful information regarding the independent contribution of each of the 10 predictors. The extent of multicollinearity is noted in respective tables.

In addition, we explored the relation of self-based pride and social comparison-based pride with the dependent variable academic performance before (**Table 4** Model 1) and after (**Table 4** Model 2) controlling for all antecedent variables.

Regression analysis were conducted using the statistic program SPSS (Version 23).

RESULTS

Regression Analyses
Relation of Self-Based Pride and Social Comparison-Based Pride With Achievement Goals, Achievement Values, and Explicit Motives
As hypothesized, self-approach goals ($\beta = 0.336$, $p = 0.000$) were positively related to self-based pride whereas others-approach goals ($\beta = 0.062$, $p = 0.249$) and task-approach goals ($\beta = -0.025$, $p = 0.661$) were not significantly related to self-based pride (see **Table 2** Model 1). Further, individual achievement values ($\beta = 0.378$, $p = 0.000$) were positively related to self-based pride whereas social achievement values ($\beta = 0.029$, $p = 0.575$) were not significantly related to self-based pride (see **Table 2** Model 2). In addition, achievement motives ($\beta = 0.214$, $p = 0.000$) and affiliation motives ($\beta = 0.181$, $p = 0.001$) were positively related to self-based pride whereas power motives ($\beta = 0.089$, $p = 0.102$), intimacy motives ($\beta = 0.043$, $p = 0.415$), and fear motives ($\beta = 0.043$, $p = 0.401$) were not significantly related to self-based pride (see **Table 2** Model 3). The results of all analyses showed a positive relationship between female gender and self-based pride ($\beta s > 0.104$, $ps < 0.03$) and no differences for age ($\beta s < 0.065$, $ps > 0.204$)[3].

As hypothesized, others-approach goals ($\beta = 0.569$, $p = 0.000$) were positively related to social comparison-based pride whereas self-approach goals ($\beta = -0.060$, $p = 0.250$) and task-approach goals ($\beta = 0.063$, $p = 0.213$) were not significantly related to social comparison-based pride (see **Table 3** Model 1). Also, social achievement values ($\beta = 0.542$, $p = 0.000$) were positively related to social comparison-based pride whereas individual achievement values ($\beta = 0.071$, $p = 0.126$) were not significantly related to social comparison-based pride (see **Table 3** Model 2). Finally, achievement motives ($\beta = 0.183$, $p = 0.001$) and power motives ($\beta = 0.235$, $p = 0.000$) were positively related to social comparison-based pride whereas affiliation motives ($\beta = -0.037$, $p = 0.487$), intimacy motives ($\beta = -0.047$, $p = 0.378$), and fear motives ($\beta = 0.046$, $p = 0.379$) were not significantly related to social comparison-based pride (see **Table 3** Model 3). The results showed no relationship between gender and social comparison-based pride ($\beta s < 0.099$, $ps > 0.056$) and no differences for age ($\beta s < 0.071$, $ps > 0.169$).

Analyzing the relationship between all independent variables and self-based pride within one regression analysis, showed the following results. As hypothesized, self-approach goals ($\beta = 0.154$, $p = 0.020$), individual achievement values ($\beta = 0.248$, $p = 0.000$), achievement motives ($\beta = 0.104$, $p = 0.049$), and affiliation motives ($\beta = 0.168$, $p = 0.001$) were positively related to self-based pride. Accordingly, other-approach goals ($\beta = 0.064$, $p = 0.405$), task-approach

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[3]In all regression analyses participants' gender and age were controlled, as past research showed gender and age differences for achievement emotions (Grossman and Wood, 1993; Frenzel et al., 2007).

TABLE 1 | Descriptive statistics, reliabilities, and intercorrelations among variables.

Measures	M	SD	Cronbach's alpha	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. SBP	3.21	1.25	0.90	–														
2. SCP	2.66	1.35	0.93	0.55**	–													
3. SAG	4.82	1.21	0.77	0.36**	0.19**	–												
4. OAG	4.11	1.62	0.93	0.18**	0.56**	0.37**	–											
5. TAG	5.77	0.97	0.84	0.16**	0.18**	0.45**	0.23**	–										
6. IND	3.49	0.95	–	0.38**	0.23**	0.59**	0.25**	0.28**	–									
7. SOC	2.73	1.1	–	0.13*	0.56**	0.24**	0.76**	0.16**	0.28**	–								
8. nAch	4.10	0.90	0.72	0.27**	0.26**	0.32**	0.21**	0.17**	0.28**	0.19**	–							
9. nAff	4.42	0.92	0.80	0.22**	0.01	0.03	–0.06	0.04	0.07	–0.13*	0.12*	–						
10. nPow	3.04	0.95	0.80	0.16**	0.28**	0.13*	0.32**	0.01	0.12*	0.35**	0.33**	0.15*	–					
11. nInt	4.84	0.92	0.71	0.09	–0.05	–0.00	–0.09	0.08	–0.07	–0.17**	0.04	0.25**	–0.06	–				
12. nFear	3.89	0.94	0.60	0.04	0.08	0.06	0.15**	0.04	0.06	0.14**	0.02	–0.14**	–0.00	0.02	–			
13. Perf	3.23	1.16	–	0.23**	0.28**	0.20**	0.27**	0.25**	0.06	0.25**	0.14*	–0.06	0.12*	–0.06	–0.06	–		
14. Gender[a]	0.710	0.46	–	0.15**	0.07	0.12*	0.01	0.19**	0.10	–0.01	0.01	0.03	–0.13*	0.03	0.18	0.14**	–	
15. Age	22.78	4.85	–	0.02	–0.07	0.026	–0.13*	–0.02	0.06	–0.12*	–0.03	–0.15**	–0.02	–0.18**	–0.09	0.04	0.02	–

*SBP, self-based pride; SCP, social comparison-based pride; SAG, self-approach goals; OAG, other-approach goals; TAG, task-approach goals; IND, individual achievement goals; SOC, social achievement value; nAch, achievement motives; nAff, affiliation motives; nPow, power motives; nInt, intimacy motives; nFear, fear motives; Perf, performance; [a]Gender is coded 0, male and 1, female. *p < 0.05; **p < 0.01.*

TABLE 2 | Relation of self, other, and task-approach goals, individual and social achievement values, and explicit achievement, affiliation, power, intimacy, and fear motives with self-based pride.

Model	1.	2.	3.	4.[b]
DV: SBP	ß	ß	ß	ß
SAG	0.336***			0.154*
OAG	0.062			0.064
TAG	−0.025			−0.038
IND		0.378***		0.248***
SOC		0.029		−0.020
nAch			0.214***	0.104*
nAff			0.181***	0.168**
nPow			0.089	0.060
nInt			0.043	0.070
nFear			0.043	0.020
Gender[a]	0.109*	0.109*	0.141**	0.104*
Age	0.019	0.000	0.065	0.049
adj. R^2	0.133	0.160	0.121	0.228
F	11.825***	17.830***	7.942***	9.690***

SBP, self-based pride; SCP, social comparison-based pride; SAG, self-approach goals; OAG, other-approach goals; TAG, task-approach goals; IND, individual achievement value; SOC, social achievement value; nAch, achievement motives; nAff, affiliation motives; nPow, power motives; nInt, intimacy motives; nFear, fear motives; [a]Gender is coded 0, male and 1, female. *p < 0.05; **p < 0.01; ***p < 0.001; [b]Multicollinearity statistics: Variance-Inflation-Factor (value): SAG (1.987), OAG(2.732), TAG(1.318), IND(1.661), SOC(2.721), nAch(1.255), nAff(1.198), nPow (1.331), nInt(1.150), nFear(1.093), gender (1.102), age (1.106).

TABLE 3 | Relation of self, other, and task-approach goals, individual and social achievement values, and explicit achievement, affiliation, power, intimacy, and fear motives with social comparison-based pride.

Model	1.	2.	3.	4.[b]
DV: SCP	ß	ß	ß	ß
SAG	−0.060			−0.134*
OAG	0.569***			0.321***
TAG	0.063			0.059
IND		0.071		0.080
SOC		0.542***		0.291***
nAch			0.183***	0.126**
nAff			−0.037	0.035
nPow			0.235***	0.049
nInt			−0.047	0.025
nFear			0.046	−0.020
Gender[a]	0.064	0.070	0.099	0.077
Age	0.008	−0.012	−0.071	0.018
adj.R^2	0.314	0.319	0.113	0.376
F	33.281***	42.295***	7.439***	18.691***

SBP, self-based pride; SCP, social comparison-based pride; SAG, self-approach goals; OAG, other-approach goals; TAG, task-approach goals; IND, individual achievement value; SOC, social achievement value; nAch, achievement motives; nAff, affiliation motives; nPow, power motives; nInt, intimacy motives; nFear, fear motives; [a]Gender is coded 0, male and 1, female. *p < 0.05; **p < 0.01; ***p < 0.001; [b]Multicollinearity statistics: Variance-Inflation-Factor (value): SAG (1.987), OAG(2.732), TAG(1.318), IND(1.661), SOC(2.721), nAch(1.255), nAff(1.198), nPow (1.331), nInt(1.150), nFear(1.093), gender (1.102), age (1.106).

goals ($ß = −0.038$, $p = 0.482$), social achievement values ($ß = −0.020$, $p = 0.793$), power motives ($ß = 0.060$, $p = 0.270$), intimacy motives ($ß = 0.070$, $p = 0.164$), and fear motives ($ß = 0.020$, $p = 0.685$) were not significantly related to self-based pride (see **Table 2** Model 4). The results showed a relationship between female gender and self-based pride ($ß = 0.104$, $p = 0.034$) and no differences for age ($ß = 0.049$, $p = 0.319$).

Analyzing the relationship between all independent variables and social comparison-based pride within one regression analysis, showed the following results. In line with our hypotheses, other-approach goals ($ß = 0.321$, $p = 0.000$), social achievement values ($ß = 0.291$, $p = 0.000$), and achievement motives ($ß = 0.126$, $p = 0.008$) were positively related to social comparison-based pride, and self-approach goals ($ß = −0.134$, $p = 0.025$) were even negatively related to social comparison-based pride. Further, task-approach goals ($ß = 0.059$, $p = 0.224$), individual achievement values ($ß = 0.080$, $p = 0.138$), affiliation motives ($ß = 0.035$, $p = 0.449$), intimacy motives ($ß = 0.025$, $p = 0.573$), and fear motives ($ß = −0.020$, $p = 0.646$) were not significantly related to social comparison-based pride (see **Table 3** Model 4). However, in contrast to our hypotheses, power motives ($ß = 0.049$, $p = 0.310$) were not significantly related to social comparison-based pride. The results showed no relationship between gender and social comparison-based pride ($ß = 0.077$, $p = 0.081$) and no differences for age ($ß = 0.018$, $p = 0.680$).

Relation of Self-Based Pride and Social Comparison-Based Pride and Their Antecedents With Academic Performance

Analyzing the relationship between the two pride facets and academic performance showed that the effect of the two pride facets changes with regard to the control of the antecedent variables (see **Table 4**). Without the control of the antecedent variables, social comparison-based pride ($ß = 0.231$, $p = 0.000$) was positively related to academic performance whereas self-based pride ($ß = 0.082$, $p = 0.183$) was not related (see **Table 4** Model 1). However, with control of the antecedent variables, self-based pride ($ß = 0.191$, $p = 0.007$) was positively related to academic performance, whereas social comparison-based pride ($ß = 0.034$, $p = 0.665$) was not related (see **Table 4** Model 2). Further, in both analyses female gender ($ßs > 0.110$, $ps < 0.033$) was positively related to academic performance but age ($ßs < 0.051$, $ps > 0.322$) was not related.

GENERAL DISCUSSION

The present study aims to replicate and strengthen the conceptual Achievement Pride Model (Buechner et al., 2018) with a large sample data from university students. We hypothesized that self-approach goals, individual achievement values, as well as achievement and affiliation motives are positively related to self-based pride, but other-approach goals, social achievement values, as well as power motives are not related to self-based pride. In

Model	1.	2.[b]
DV: PERF	ß	ß
SBP	0.082	0.191**
SCP	0.231***	0.034
SAG	–	0.061
OAG	–	0.101
TAG	–	0.171**
IND	–	−0.183**
SOC	–	0.124
nAch	–	0.039
nAff	–	−0.086
nPow	–	0.030
nInt	–	−0.036
nFear	–	−0.130*
Gender[a]	0.110*	0.117*
Age	0.051	0.048
adj. R^2	0.091	0.162
F	9.789***	5.862***

*SBP, self-based pride; SCP, social comparison-based pride; SAG, self-approach goals; OAG, other-approach goals; TAG, task-approach goals; IND, individual achievement value; SOC, social achievement value; nAch, achievement motives; nAff, affiliation motives; nPow, power motives; nInt, intimacy motives; nFear, fear motives; Perf, performance; [a]Gender is coded 0, male and 1, female. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; [b]Multicollinearity statistics: Variance-Inflation-Factor (value): SBP (2.094), SCP (2.588), SAG (2.140), OAG(2.950), TAG(1.336), IND(1.751), SOC(2.959), nAch(1.283), nAff(1.244), nPow (1.337), nInt(1.157), nFear(1.096), gender (1.118), age (1.109).*

turn, we expected that other-approach goals, social achievement values, as well as achievement and power motives are positively related to social comparison-based pride, but self-approach goals, individual achievement values, as well as affiliation motives are not related to social comparison-based pride.

In line with hypotheses, results of separate regression analyses revealed that self-approach goals, individual achievement values, achievement motives, and affiliation motives are positively related to self-based pride whereas other-approach goals, task-approach goals, social achievement values, power motives, intimacy motives, and fear motives are not related to self-based pride. Further, results of separate regression analyses revealed that other-approach goals, social achievement values, achievement motives, and power motives are positively related to social comparison-based pride whereas self-approach goals, task-approach goals, individual achievement values, affiliation motives, intimacy motives, and fear motives are not related to social comparison-based pride. These results replicate previous findings showing relations of achievement pride with students' achievement values and goals (Buechner et al., 2018) and extend them in terms of explicit motives.

As mentioned above, we further run regression analyses with all antecedent variables at the same time to examine the predictive power of all independent variables on the pride facets.

Those analyses resulted in the same results for self-based pride and social comparison-based pride, with the expectation, that self-approach goals are negatively related and explicit power motives not positively related to social comparison-based pride. From a theoretical point of view, the negative relation of self-approach goals with social comparison-based pride is expectable, however the missing positive relation of power motives with social comparison-based pride is odd. Reciprocal relationships between the antecedent variables and pride should be taken into account in further research. It might be an interesting and theoretically longer-term project to focus on possible interactional and/or mediational processes between achievement goals, achievement values, explicit achievement motives, self-based pride, and social comparison-based pride, as well as academic performance.

In addition, this study explored the relationship between the two pride facets and academic performance. As research on academic performance emphasized the positive influence of positive emotions (e.g., Pekrun et al., 2009; Valiente et al., 2012) and pride in particular (e.g., Holodynski, 2006; Frenzel et al., 2007) we expected both pride facets being linked to academic performance. However, we had no specific hypothesis whether self-based pride or social comparison-based pride is more linked to academic performance. Results revealed a contrary effect from the pride facets on academic performance with and without control of the antecedent variables. More precisely, results showed that social comparison-based pride is positively related and self-based pride not related to academic performance (see **Table 4** Models 1). However, under the control of all antecedent variables the effect of the two pride facets changed. When controlling for achievement goals, achievement values, and explicit motives, self-based pride but not social comparison-based is positively related to academic performance (see **Table 4** Model 2). This pattern could be explained by taking a look at the goal literature. Research on mastery and performance goal orientations yielded non-uniform results in terms of academic performance. Whereas, some researchers found performance goals to result in better performance than mastery goals (e.g., Pintrich, 2000), others found mastery goals to result in better performance than performance goals (e.g., Dweck, 1986; Ames and Archer, 1988; Ames, 1992) or even no difference between mastery and performance goals (e.g., Elliot et al., 2005). Interestingly, a meta-analysis (Noordzij et al., 2014) revealed a performance advantage of mastery-approach goals over performance-approach goals. As self-based pride and social comparison-based pride have been shown to come along with mastery and performance approach-goal orientations, respectively, a performance advantage of self-based pride over social comparison-based pride is expectable and fits to the present results (without control of all antecedent variables). One possible explanation for this change in effects could be the role of the explicit achievement motive which seems to have an additional effect on both pride facets with control of the other antecedent variables (see Model 4 **Tables 2**, **3**). That is, only under control of the achievement motive, the "purified" impact of the self-based-pride facet on academic performance becomes relevant.

As mentioned above, we controlled for both gender and age in the regression analyses as previous research on achievement emotions found differences for those variables (Grossman and Wood, 1993; Frenzel et al., 2007). Interestingly, throughout the analyses, female gender has been shown to be positively related to academic performance. This is in line with common findings in education research showing a stable female advantage in academic performance from elementary to college contexts whereby there are domain-specific differences (e.g., Voyer and Voyer, 2014). Further, the present results showed a positive relationship between females and self-based pride but no gender effect of social comparison-based pride. Research on pride showed that men are stereotyped to experience more pride (Plant et al., 2000) and to more likely attribute success to internal attributions (e.g., effort), whereas women are expected to attribute success to external attribution (e.g., luck; Deaux and Emswiller, 1974; Etaugh and Brown, 1975; Dweck and Leggett, 1988; Stipek and Galinski, 1991; Else-Quest et al., 2012). Unfortunately, these studies did not differentiate between self-based and social comparison-based pride, which makes it difficult to provide a more fine-grained picture about the gender differences in pride. However, as the name implies, social comparison-based pride comprises competition. In consideration of the economic literature, we know that men prefer competitive situations (e.g., Gneezy et al., 2003) and tend to pursue performance goals (Linnenbrink et al., 2000). Niederle and Vesterlund (2007), for instance, showed that men embrace competition and are more effective than women within such environments. As such, greater pride in men over women observed in literature should be related to the competitive social comparison-based pride facet. In contrast, women are known to prefer mastery situations, which focus on self-improvement (Linnenbrink et al., 2000; Gneezy et al., 2003; Niederle and Vesterlund, 2007). As self-based pride refers to intrapersonal improvement in performance over time, the positive relationship between females and self-based pride is to be expected. However, we did not find a relationship between social comparison-based pride and men. This might be caused, in relative terms, by the homogeneity in our university students-sample (see for a critical point of view e.g., Peterson, 2001) and further research with data referring to representative samples is needed to examine the gender pride link.

In terms of age, results from previous research revealed a mixed pattern. Buechner et al. (2018; Study 3) found primary school students to report more self-based pride than social comparison-based pride. This is in line with the claim, that young children in less normative evaluative environments prefer temporal comparisons and mastery goal orientations (Suls and Mullen, 1982; Nicholls, 1990). For older students in academically competitive environments though, such a motivation is likely becoming increasingly more difficult to enact with and probably changes to a social competitive, performance motivation. However, in university-students-samples (Buechner et al., 2018; Study 1 and 2) as well as in the present university-students-sample, students also report more self-based pride than social comparison-based pride. As such, it seems that self-based pride prevails social comparison-based in all age groups. Also, in Buechner et al.'s (2018) university samples, social comparison-based pride was even negatively correlated with age, that is, the older the university students are the less they experience social comparison-based pride. Within the present study, however, age is not related to social comparison-based pride nor to self-based pride. As such, it still remains unclear whether social comparison-based pride experiences change with regard to age or whether it is a question of other factors, such as the type of evaluative environments. Further research is necessary to clarify this question.

Limitations and Implications

The design of the present study entails some limitations in terms of generalizability. Data were collected from German university students, as such domain specificity and cross-cultural generalizability remain open questions (e.g., Goetz et al., 2007; Mesquita and Polanco, 2009; Neumann et al., 2009). Future research should examine achievement pride within different domains and cultures. In addition, there are some limitations concerning the variable operationalization, too (e.g., single-item-scales, self-reported academic performance scale, and appropriate self-enhancement biases; e.g., Gramzow and Willard, 2006) which should be taken into account. Finally, as variables were assessed at one point in time only, one cannot assume the causality of results. Longitudinal studies or even implicit measures would be necessary to enable a more objective assessment of participants' achievement pride and its antecedents.

In closing, the present research was designed to replicate and expand the APS with regard to explicit achievement, affiliation, and power motives, as well as to get a first understanding of the link between these variables with academic performance. Results are in line with our hypotheses and we hope that the present results are useful for further research to extend this type of work.

DATA AVAILABILITY

The authors confirm that the research materials and data underlying the findings are fully available without restriction on OSF: https://osf.io/pyuvm/.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of the ethics committee of the Department of Psychology, LMU Munich and with the ethical standards expressed in the Declaration of Helsinki. The protocol was approved by the ethics committee of the Department of Psychology, LMU Munich. All subjects gave informed consent by clicking continue after the introduction and information page of the online survey. This consent procedure has been approved by the ethics committee of the Department of Psychology, LMU Munich.

AUTHOR CONTRIBUTIONS

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