Feeling left out, but affirmed: Protecting against the negative effects of low belonging in college ☆

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HIGHLIGHTS

- Non-affirmed students with a low sense of belonging declined in GPA over three semesters.
- Affirmed students with a low sense of belonging increased in GPA over three semesters.
- Findings extend the protective effect of self-affirmation to subsets of the majority culture.

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ABSTRACT

Evaluative domains such as work and school present daily threats to self-integrity that can undermine performance. Self-affirmation theory asserts that, when threatened, people can perform small but meaningful acts to reaffirm their sense of competency. For instance, brief self-affirmation writing interventions have been shown in numerous studies to boost the academic achievement of those contending with negative stereotypes in school because of their race, gender, or generational status. The current paper tested the protective effects of self-affirmation for students who have the subjective sense that they do not belong in college. Such a feeling is not as visible as race or gender but, as a pervasive part of the students' inner world, might still be as debilitating to the students' academic performance. Among a predominantly White sample of college undergraduates, students who felt a low sense of belonging declined in grade point average (GPA) over three semesters. In contrast, students who reported low belonging, but affirmed their core values in a lab-administered self-affirmation writing activity, gained in GPA over time, with the effect of affirmation sufficiently strong to yield a main effect among the sample as a whole. The affirmation intervention mitigated—and even reversed—the decline in GPA among students with a low sense of belonging in college, providing support for self-affirmation theory's contention that affirmations of personal integrity can lessen psychological threat regardless of its source.

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1. Introduction

Threats to self-integrity are common in evaluative domains such as athletics, work, and school. Receiving criticism from a teacher or being excluded from a social gathering can challenge people's view of themselves as adaptively adequate, triggering stress and defensiveness (Steele, 1988; see also Cohen & Sherman, 2014). Alternatively, people can mitigate threat by affirming sources of self-integrity unrelated to the threatened domain, thus broadening their self-concept and making the threat seem less important (Steele, 1988; see also Cohen & Sherman, 2014). The current study tests the protective effects of a "self-affirmation" writing exercise for college students who have a low sense of belonging.

1.1. Students with a low sense of belonging in college

Humans have a fundamental need to belong (Baumeister & Leary, 1995; Ryan & Deci, 2000) and a lack of felt belonging can trigger poorer cognitive functioning (Baumeister, Twenge, & Nuss, 2002; Baumeister,

DeWall, Ciarocco, & Twenge, 2005) and decreased physical and mental health (Cacioppo & Patrick, 2008; Powell et al., 2013). Threats to belonging may be harmful, in part, because they threaten people's sense of self-integrity (Leary, Tambor, Terdal, & Downs, 1995, see also Cohen & Sherman, 2014). Affirmation might help students cope with belonging threat by either bolstering self-integrity in non-social domains (e.g., "I may not fit in, but I am creative") or by directly re-affirming social belonging outside of school (e.g., "I don't know many people here, but my family and friends love me"). Indeed, recent research suggests that people often affirm themselves by reflecting on their social relationships, and that self-affirmations work by bolstering people's subjective connectedness (Crocker, Niiya, & Mischkowski, 2008; Shnabel, Purdie-Vaughns, Cook, Garcia, & Cohen, 2013), including to groups and purposes larger than themselves (Burson, Crocker, & Mischkowski, 2012).

In one study, Black middle school students who affirmed core values reported a relatively stable sense of belonging in school over time, whereas their peers in the control condition exhibited a sense of belonging that decreased with time and was more susceptible to academic adversity (Cook, Purdie-Vaughns, Garcia, & Cohen, 2012). In addition, the affirmation improved the GPA trajectory the most for Black (but not White) students who reported a low sense of belonging (Cook et al., 2012). Seeking to extend Cook et al.' (2012) findings, we explored the effect of low belonging among a mostly White sample of college students.

1.2. The present study

In a randomized controlled experiment, we explored the effect of a self-affirmation writing activity (versus a neutral comparison condition) on a test immediately following the intervention and on grade point averages (GPA) over time. Research has shown that affirmations can improve the GPA of marginalized ethnic minority students who contend with threats to their belonging in school due to pervasive negative stereotypes (Cohen, Garcia, Apfel, & Master, 2006; Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009; Sherman et al., 2013), and also first generation college students who may perceive that that their interdependent values do not fit the individualistic nature of universities (Harackiewicz et al., 2014; Tibbetts et al., 2016). Perhaps the various reasons why one could feel like an outsider at their college—like the marginalization of a group they belong to (e.g., their ethnicity or religion) or failure to find people with similar interests (e.g., Star Wars, hiking, or Doom)—could all be tapped by asking college students about their sense of belonging on campus. We predicted that students who lacked a sense of social belonging in college would benefit more from the affirmation in terms of GPA trajectory than students who had a relatively stronger sense of belonging. Additionally, in supplementary analyses we explored whether the effect of affirmation was moderated by gender or Baseline GPA.

2. Method

2.1. Participants

Participants were 105 introductory psychology students (51.4% women; 60% freshmen, 22.9% sophomores) at University of Colorado, Boulder ($M_{age} = 19.12$, $SD_{age} = 1.28$) from a diverse range of majors who received course credit for their participation. Participants were mostly White (85.7%), with 7.6% Asian, 1.9% Hispanic, 1.0% Black, and 3.8% other ethnicity categories.

2.2. Procedures and measures

Before the study, participants completed questionnaires on the participant pool website, including a belongingness in college scale. Specifically, we averaged participant responses to the following three items: "I

feel like I belong in my school," "People in my school accept me," and "I feel like an outsider at UCB" (reverse-coded; $1 = $ *strongly disagree*; $6 = $ *strongly agree*); Cronbach's $\alpha = 0.85$; $M = 5.01$, $SD = 0.85$; (Walton & Cohen, 2007).

Participants completed the laboratory study in groups of 4 to 10 ($M = 6.62$, $SD = 1.62$). After obtaining consent, the experimenter (blind to condition) handed out sealed packets that were shuffled to permit random assignment to the affirmation ($n = 48$) or control ($n = 57$) condition. All participants were given a list of eleven values (e.g., religion, family) and asked to rank them ($1 = $ *most important*; $11 = $ *least important*). In the affirmation condition, participants wrote about their most important value and why it was important to them. In the control condition, participants wrote about their ninth ranked value and why it may be important to others (modified from Cohen, Garcia, Apfel, & Master, 2006). After the 10–15 min writing exercise, students took a difficult math test, described as a measure of intellectual ability predictive of future success. After completing the test, each participant filled out a packet of "general surveys," that included scales to measure several psychological constructs on an exploratory basis, demographics, and a form to release their GPA. We report all measures, manipulations, and exclusions in the Supplementary material.

3. Results

3.1. Short-term performance effects

We found no main effect of condition or Condition × Belonging interaction on the math test (see also Cohen et al., 2006). See Supplementary Material for specific results and for evidence that affirmation bolsters the performance of students with relatively lower Baseline GPA.

3.2. Long-term performance effects

We estimated multilevel models to test the effect of condition and belonging on linear changes in GPA from before the intervention (baseline) to the semester of the intervention (intervention) to the semester after the intervention was administered (follow-up; see Supplementary Material for further model estimation details). See Table 1 for means and standard deviations by condition at each time point and Table 2 for model parameter estimates. Condition was effect-coded (affirmation $= 0.5$, control $= -0.5$) and baseline sense of belonging was grand-mean centered on 0.

3.2.1. Does affirmation affect GPA over time?

Yes. We found a Time × Condition interaction such that students in the affirmation condition showed a relatively steeper increase in GPA over time than the control condition, $\gamma_{11} = 0.16$, $SE = 0.06$, $t(183) = 2.74$, $p = 0.007$.

Table 1
Grade point average means (SD) by condition and time point.

	Condition			
	Affirmation		Control	
Grade point average	n	M (SD)	n	M (SD)
Baseline	45	2.99 (0.74)	55	2.83 (0.64)
Intervention	46	3.16 (0.58)	56	2.96 (0.71)
Follow-up	41	3.21 (0.68)	46	2.81 (0.80)

Note: Baseline GPA was calculated by averaging GPA from all pre-intervention semesters available; Intervention GPA was collected from the semester in which the intervention was conducted; and Follow-up GPA was collected from the semester after the intervention was conducted (i.e., two semesters after Baseline GPA). This sample includes some participants ($n = 19$) who completed the affirmation during the last few weeks of Fall 2008, which was included in the pregpa calculation. These participants were spread evenly across conditions and the effect of condition and its interactions with belonging remain significant when excluding them from analyses.

Table 2
Model parameter estimates (standard errors) for linear changes in GPA over time.

Effect		Model 1: Condition			Model 2: Condition and belonging		
		γ (SE)	p	d	γ (SE)	p	d
Fixed effects							
Status at baseline, π_{0i}							
Intercept	γ_{00}	2.94 (0.07)	<0.001		2.95 (0.07)	<0.001	
Belonging	γ_{01}	–			−0.15 (0.08)	0.07	−0.22
Rate of change, π_{1i}							
Time	γ_{10}	0.05 (0.03)	0.09	0.14	0.06 (0.03)	0.07	0.17
Condition	γ_{11}	0.16 (0.06)	0.007	0.46	0.15 (0.06)	0.008	0.43
Belonging	γ_{12}	–			0.09 (0.04)	0.04	0.26
Gender	γ_{13}	–			–		
Condition × Belonging	γ_{14}	–			−0.18 (0.08)	0.02	−0.52
Condition × Gender	γ_{15}	–			–		
Belonging × Gender	γ_{16}	–			–		
Condition × Belonging × Gender	γ_{17}	–			–		
Random effects							
Level 1							
Residual	σ^2_ε	0.19 (0.03)	<0.001		0.18 (0.02)	<0.001	
Level 2							
Intercept	σ^2_0	0.29 (0.05)	<0.001		0.28 (0.05)	<0.001	
Goodness-of-fit							
−2LL		508.23			493.63		
AIC		518.23			509.63		
BIC		536.57			538.96		

Note: Leaving time as random was not a significantly better fit to the data for either model, so time is fixed in both. Condition was effect coded (Affirmation = 0.5; Control = −0.5) and belonging was grand-mean centered. Cohen's ds for the intercept predictor were calculated with the following formula $d = b / SD_{raw}$. Cohen's ds for the slope predictors were calculated with the following formula: $d = b(\text{time}) / SD_{raw}$ where b is the unstandardized regression coefficient of interest, time is the number of time points after baseline (2; time was coded as 0, 1, 2), and SD_{raw} is the standard deviation of the GPA across groups at baseline ($SD_{GPA} = 0.69$; Feingold, 2009).

3.2.2. Does students' baseline sense of belonging moderate the effect of affirmation?

Yes. Affirmation's benefit was strongest for students with low levels of belonging. We found a Time × Belonging interaction such that relatively lower belonging was associated with decrements in GPA over time, $\gamma_{12} = 0.09$, SE = 0.04, $t(181) = 2.09$, $p = 0.04$. Importantly, the Time × Condition interaction remained intact in this model, $\gamma_{11} = 0.15$, SE = 0.06, $t(181) = 2.67$, $p = 0.008$, and a Time × Condition × Belonging interaction emerged, indicating that being in the affirmation condition was especially protective for students low in belonging, $\gamma_{14} = -0.18$, SE = 0.08, $t(181) = -2.35$, $p = 0.02$ (see Fig. 1).

To examine the effects of the affirmation on GPA trajectory at different levels of belonging, we probed the Time × Condition × Belonging using recommended procedures (Preacher, Curran, & Bauer, 2006). Analyses revealed that the affirmation improved GPA trajectory for students both at −1 SD on belonging and at the mean of belonging, simple slope = 0.31, SE = 0.09, $t(181) = 3.39$, $p = 0.0009$ and simple slope = 0.15, SE = 0.06, $t(181) = 2.69$, $p = 0.008$, respectively, but not for people +1 SD on belonging, simple slope = −0.002, SE = 0.08, $t(181) = 0.03$, $p = 0.98$. A region of significance analysis indicated that the affirmation improved GPA trajectory for people with belonging scores of 5.22 and below, which encompassed 60% of our sample. Although the affirmation intervention was not helpful for people +1 SD on belonging (almost the maximum value on the scale), those people, on average, increased in GPA over the course of the study, simple time intercept = 0.14, SE = 0.05, $t(181) = 2.99$, $p = 0.003$. Thus, for students making the transition to college, the risk factor may not be low belonging, but rather a lack of high belonging.

Put another way, the affirmation erased the negative effect of low belonging. Belonging predicted GPA over time in the control condition, with low belonging predicting lower GPA, simple slope = 0.18, SE = 0.05, $t(181) = 3.80$, $p = 0.0002$, but not in the affirmation condition, simple slope = 0.0005, SE = 0.07, $t(181) = 0.008$, $p = 0.99$. This result echoes previous research showing that affirmations untether risk factors from adaptive outcomes in underrepresented minorities (Cook et al., 2012; Sherman et al., 2013).

3.3. Summary of supplementary analyses

In the Supplementary material, we explored the moderating effects of gender and Baseline GPA. We found a significant Condition × Gender interaction on linear changes in GPA over time
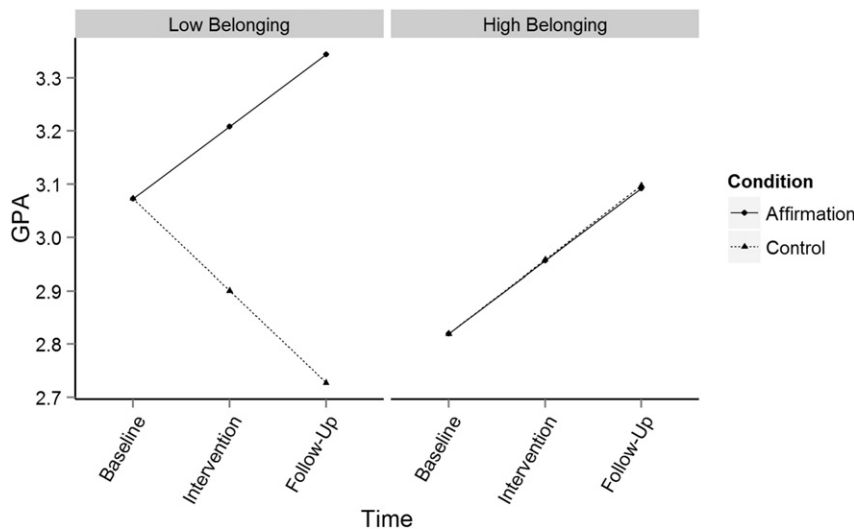

Fig. 1. Model predicted GPA by condition and mean-centered belonging (Model 2). *Note*: High/low belonging are +1/−1 SD from the mean ($SD_{belonging} = 0.82$). Because people with high belonging had nearly identical model-predicted GPA trajectories in the affirmation and control groups, their lines overlap.

such that men benefited from the affirmation, but women did not. Importantly, the Condition × Gender interaction did not negate the significant Condition × Belonging interaction presented in the main manuscript. We also found a significant Condition × Baseline GPA × Belonging interaction on Follow-up GPA such that the affirmation was especially protective for people who had low belonging and low Baseline GPA. Additionally, the main effect of affirmation on linear changes in GPA over time remained significant when controlling for self-reported SAT or ACT scores, and the Condition × Belonging effect remained marginally significant. Lastly, all effects presented in the main manuscript remain significant when just White students are included in the analyses.

4. Discussion

We found a significant main effect of self-affirmation on GPA that was driven by benefits among a particularly vulnerable group, students with a low sense of belonging. In supplementary analyses, we found that affirmation was especially helpful for people with low belonging and low Baseline GPA, a dual vulnerability. Although many studies have shown that affirmation interventions lessen psychological threat among marginalized groups (e.g., Cohen et al., 2006; Cohen et al., 2009; Cook et al., 2012; Sherman et al., 2013), they have not typically benefited majority-group students (see Vohs, Park, & Schmeichel, 2013, for evidence of a detrimental effect). The present study is among the first to document a real-world academic benefit of affirmation among majority-group students experiencing psychological threat in college, providing evidence that affirmations of self-integrity can lessen the impact of psychological threat, regardless of its source. Likewise, Harackiewicz et al. (2014) found that affirmation benefits first generation college students, regardless of race.

First generation college students report lower belonging in school (Harackiewicz et al., 2014), but it is unlikely that generational status is driving our results. We did not collect generational status from our participants, but, during the study, the university had an enrollment of 17% first generation undergraduate students (University of Colorado, Diversity Report, 2009–2010). The affirmation boosted GPA for 60% of our sample which was unlikely to be composed entirely of first generation college students. Furthermore, because a disproportionate number of first-generation college students are members of underrepresented ethnic groups (Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007), our majority White sample makes it improbable that first-generation students were overrepresented in our sample. That said, other group memberships (e.g., LGBT identity, disability status, or religious affiliation) may also contribute to a lack of belonging. Perhaps the social belonging measure captured a feeling common to various marginalized groups on campus, as well as majority group students who feel isolated for idiosyncratic reasons.

Furthermore, we found that men (but not women) benefited from the affirmation, suggesting that men were contending with psychological threat alleviated by the affirmation. Indeed, national statistics indicate that, across majors, men are less likely to complete their degree than women, and at a slower pace (U.S. Department of Education, National Center for Education Statistics, 2012). For a thorough discussion, please see the Supplementary material.

4.1. Mechanisms of self-affirmation

Theoretically, the affirmation may have contextualized the belonging threat into the broader fabric of the student, minimizing its impact (Critcher & Dunning, 2014), or may have directly bolstered the students' sense of belonging by calling to mind valued social relationships (e.g., Crocker, Niiya, & Mischkowski, 2008). In contrast, Walton and colleagues' belonging interventions seek to normalize social adversity and help students interpret inevitable negative cues in their environment as common rather than as a sign they or their group does not belong (Walton & Cohen, 2011; see also Wilson et al., 2002). Unlike Walton's belonging interventions, affirmation interventions do not change the attribution of a threat as threatening; instead they cue people to think of themselves as more than just the threat, therefore making the threat less detrimental.

Furthermore, a recent study found that affirmed (versus unaffirmed) Latino students engaged in more spontaneous self-affirming and less self-threatening thoughts in the face of an academic stressor, which mediated the relationship between condition and GPA two years later (Brady et al., 2016). Although we did not explore mediation in the current study, it is possible that our intervention worked similarly—by helping students respond to inevitable challenges in adaptive ways.

4.2. Future questions

The affirmation literature has many unanswered questions. Although affirmation boosts self-integrity (Sherman et al., 2009; Brady et al., 2016) and broadens construal (Sherman et al., 2013), these psychological changes have not statistically mediated the relationship between affirmation and changes in GPA, thus leaving these theoretical mechanisms unsupported empirically. In addition, although some research suggests that writing about interdependence drives the positive effect of affirmation on GPA (among Black middle school students and White female college students; Shnabel et al., 2013), other research suggests that writing about independence is more impactful (among first generation college students in a biology course; Tibbetts et al., 2016). Similarly, although we found that the affirmation was protective for White undergraduates with a low sense of belonging, Cook et al. (2012) did not find a protective effect for White middle school students. Lastly, although we found a main effect of the affirmation condition on White undergraduates at the University of Colorado, Boulder, Brady et al. (2016) did not (and did not have a baseline social belonging measure to replicate our analyses). Future research should explore the mechanisms of the values affirmation on various groups of people to fine-tune for whom and when these interventions may be helpful.

5. Conclusion

People experience threats to their sense of self-integrity on a daily basis. An undergraduate who does not feel at home in college might underperform unless he or she finds alternative sources of self-integrity. Self-affirmation has had important effects among acknowledged vulnerable populations, such as women in STEM fields and Black and Latino students. The current study extends the research on self-affirmation to a personal and less visible vulnerability—a subjective sense that one does not belong.

Appendix A. Supplementary data

Supplementary data to this article can be found online at http://dx.doi.org/10.1016/j.jesp.2016.09.008.

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