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The Ripple Effects of Belonging: How Faculty-Student **Connections May Drive Mutual Success**

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The Ripple Effects of Belonging:

How Faculty-Student Connections May Drive Mutual Success

by

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Honors Thesis

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Abstract

Experiencing a sense of belonging on a college campus is predicted to increase academic success, classroom engagement, and greater well-being for students. Less central to the belonging conversation is faculty belonging; since faculty play an instrumental role in the development of student belonging, we hypothesize that faculty belonging may increase positive student outcomes inside and outside the classroom. Study 1 examines faculty experiences of and beliefs about belonging at a Predominantly White Institution (PWI), with the aim of identifying patterns and indicators of heterogeneity. Results revealed that significant burnout is central to a lack of faculty belonging and stronger desires to leave the institution, prompting a pivot in our research to further prioritize faculty belonging. Further, students may play a greater role in determining faculty belonging than previously hypothesized. Study 2 investigated how ostensibly faculty-written emails, identical in policy but varied in warmth and self-disclosure, shape students' perceptions of their professor and the classroom environment. Our hypothesis that perceived faculty warmth may lead to improved student outcomes for all variables of interest is supported; however, there may be an inverse relationship between self-disclosure and competence, where the cost of faculty self-disclosure is lower perceived faculty competence. While not as impactful as faculty warmth, faculty competence may predict respect from students, a key facet of faculty belonging with students. These findings indicate there may be a virtuous cycle of belonging present between faculty and students; when faculty positively influence student belonging, students may facilitate facets of faculty belonging. Implications for future experimental research that highlights this faculty-student connection are discussed.

Keywords: faculty belonging, student belonging, faculty-student connections

The Ripple Effects of Belonging:

How Faculty-Student Connections May Drive Mutual Success

The "need to belong", or experiencing a "sense of belonging," is considered a fundamental human motivation, playing an integral role in forming emotional patterns and cognitive processes (Baumeister & Leary, 1995). A great deal of attention has been devoted in recent years to *student belonging on college and university campuses* (Allen et al., 2024). This focus on student belonging makes sense: Defined as "a psychological state that includes experiences of social support, connection, and feeling respected, accepted, and valued by the campus community" (Strayhorn, 2018), student belonging is known to promote academic success, predict personal well-being, and mitigate inequality between privileged and marginalized student groups (Gopalan et al., 2022; Walton et al., 2023).

There are numerous factors that predict better and can improve student belonging, including shifts in student mindsets and university programs (Crowe, 2021; Ravishankar et al., 2024; Wallace et al., 2023). Faculty, too, can play an important role in promoting student belonging, particularly by including identity safety cues in their course materials (Maimon et al., 2023), structuring classroom experiences to promote peer-to-peer interaction (Ziegler et al., 2020), fostering and holding a growth mindset (Williams et al., 2021), and engaging in high-quality mentoring relationships with students (Glass et al., 2015).

I began this research project with an overarching interest in how faculty experiences of belonging might shape their interactions with and how they are perceived by students, which in turn may influence student experiences of belonging. Faculty experiences of belonging are fairly understudied (Bergeron et al., 2023). Though there is a growing literature on belonging in the

workplace (Filstad et al., 2019), there may be some unique things about how faculty experience belonging and how those experiences then shape student belonging.

In order to better understand faculty experiences of and beliefs about belonging, I conducted a pilot study (Study 1) to evaluate the extent to which faculty members experience a sense of belonging, desire to belong, value student belonging in the classroom, see themselves as an important facilitator of student belonging, experience burnout, and intend to leave the university. It was originally intended to establish common prototypes of faculty members with regard to their own belonging and beliefs about student belonging, which would be used to inform the faculty profiles presented to student participants in a subsequent experiment (Study 2). Instead, the results of Study 1 sparked my interest in reducing faculty psychosocial stressors, resulting in an adjustment to the original plan for Study 2.

Thus, in this paper, I first describe the rationale and supporting literature, methods, and results for Study 1, then explain what conclusions I drew from it and how those informed the research questions and hypotheses for Study 2. I then report the methods and results for Study 2, before concluding with a general discussion of what I found and the implications of those results for our understanding of the mutual influence of faculty and student belonging.

Study 1

While our pilot study was exploratory in nature, we had reason to surmise that faculty belonging may be impacted by belonging on three levels: to the institution at large (university affiliation), to their departments, and with their students. Barriers to faculty belonging also include levels of burnout and desires to leave the institution.

Facilitators of Faculty Belonging

University Affiliation

While definitions of faculty belonging are situational and inconsistent across studies (Wilson et al., 2025), their belonging tends to center around this idea of "making a difference" and settling into their "academic home" (Cook-Sather & Felten, 2017). A key component of settling into an "academic home" is experiencing a sense of membership and feeling prideful in the fact that one is part of a university community, which is consistent with the broadly used definition of "university affiliation". Wearing university merchandise, attending sporting events, and sharing one's university affiliation with others outside of one's university community are all expected to be predictors of faculty belonging at the institutional level (Slaten et al., 2018). Another facet of belonging to an institution is perceptions of support, especially for those with significant caregiving responsibilities who may struggle to maintain a work-life balance (Moors et al., 2014). Many faculty members have shared that commitment to their institutions feels one-sided; they may be committed to their university (i.e., promotes institutional missions, publishes research articles under their institution's name, signals to others that they're part of that university community) and believe this sentiment is reciprocated, that troth is quickly broken or lost when faculty lack institutional support for their personal needs (Shields & McGinn, 2011). Thus, we operationally defined belonging at the institutional level as affiliation with the university and presence (or absence) of institutional support and resources.

Faculty-Student Relationships

An overwhelming majority of the belonging literature positions faculty members as facilitators of student belonging through cultural sensitivity for marginalized students, classroom engagement efforts, mentorship outside of the classroom, and promotion of self-efficacy (Allen

et al., 2024; Miller et al., 2019; Paris, 2013). Faculty members motivate students to delve deeper into their fields, especially for those that lack a sense of belonging at their institution as a whole (e.g., international students; Glass et al., 2015). However, the benefits of the faculty–student connection for faculty members is understudied; faculty belonging may be directly influenced by the connections forged with students, making them vital to examine in the current study.

Department Connectedness

Given how much time employees spend at work, the workplace becomes a crucial site for the development of fulfilling social bonds. Workplace belonging flourishes as a direct result of being part of something with others (e.g., a work group or organization; Filstad et al., 2019). For faculty members in particular, connecting with other faculty in their departments will not only improve their felt belongingness, but may alleviate major stressors of their professional roles; connectedness with departmental colleagues may promote greater well-being and lesser burnout (Bishop & High, 2023). Both informal (e.g., grabbing a cup of coffee off-campus) and formal (e.g., a collaborative research project) interactions with other faculty are core to the formation of long-lasting relationships so vital to faculty belonging, especially in an academic setting that does not always value inclusivity (Boden et al., 2024). We measure department connectedness in an effort to explain how feeling cared for and valued by departmental colleagues may contribute to greater belonging and related positive outcomes.

Barriers to Faculty Belonging

Burnout

Often described as a "state of physical, emotional, and mental exhaustion", burnout is unfortunately a core deficit of teaching (Bishop & High, 2023). An increase in workload, teaching and research demands, and job instability in the field of academia are all facets of

greater burnout. When faculty members are more burnt out, the consequences that follow include poor well-being and performance, a decreased ability to aid student learning, and less institutional productivity (Sabagh et al., 2018). Faculty also struggle to spend quality time with their families due to a poor work-life balance imposed on them by the structure of academic institutions, contributing further to their burnout (Zábrodská et al., 2018). Burnout is integral to the current study; we measure how faculty manage their work and how it might make them feel (e.g., elevated exhaustion).

Desires to Leave the Institution

In a community setting, feelings of belongingness increase community retention and decrease desires to leave, as belonging is seen as a driving factor in community engagement (Blau et al., 2023; Clark et al., 2024). Overwhelming sensations of burnout, a lack of belonging on the institutional, departmental, and classroom levels, and poor working conditions (i.e., absence of disability accommodations) may all be driving faculty desires to leave their institutions. With the rise of non-tenure track faculty (NTTP) positions, many new faculty members feel little to no job security and are not adequately compensated for their hard work (Paris, 2013). Thus, one newer factor for wanting to leave a university as a faculty member is the need for long-term, traditional tenure stability. Faculty roles such as visiting and assistant professors offer no guarantee of full-time employment beyond their single or multi-year contracts, prompting faculty members' flight responses in order to survive career-wise, regardless of their personal opinions of the university. Faculty may also be motivated to leave their institutions upon experiencing workplace ostracism or loneliness; job dissatisfaction, reduced engagement in their work, worse professional success, and lesser psychological well-being are all consequences of exclusion in the workplace (Basit & Nauman, 2023; Howard

et al., 2020; Kwan et al., 2022). Identifying how faculty at the present institution may desire to leave is vital to improving faculty retention.

Lack of Motivation to Belong

Although deemed central to employees' sense of belonging, some faculty members may not be motivated to develop relationships with nor receive an abundance of support from their colleagues (Waller, 2021). Particularly, those with significant caregiving responsibilities at home may feel hesitant to connect with students, departmental colleagues, and their institutions at large in an effort to maintain the stronger work-life balance they already struggle to keep (Dardas et al., 2021). However, employees who experience a sense of belonging and contribute to a positive work environment tend to be more productive and report greater satisfaction with their jobs, suggesting that faculty belonging bolsters professional success (Boden et al., 2024). While many institutions posit "belonging and community" or a related term as a top institutional mission, faculty who do not prioritize their own belonging at an academic institution may be less effective at promoting student belonging. Examining how motivations to and felt belonging may differ is therefore relevant to measure.

Method

Participants

Participants were University of Richmond faculty members who teach traditional undergraduate courses (N = 41). See Table 1 for demographic characteristics.

Table 1

Variable	Response	Percentage of Participants	Number of Participants
	Yes	68.3%	n = 28
Marginalized Group Member ¹	No	29.3%	n = 12
	Preferred not to answer	2.4%	n = 1
	Yes	39%	n = 16
Significant Caregiving Responsibilities	No	53.7%	n = 22
	Preferred not to answer	7.3%	n = 3
	Married	46.3%	n = 19
	Cohabiting/in relationship	17.1%	n = 7
Relationship	Single	9.8%	n = 4
Status	Civil union/domestic partnership	2.4%	n = 1
	Divorced/separated	2.4%	n = 1
	Preferred not to answer	22%	n = 9
	Yes	17.1%	n = 7
Disability/Chronic Condition	No	78%	n = 32
	Preferred not to answer	4.9%	n = 2
	Full professor	17.1%	n = 7
	Associate professor	26.8%	n = 11
	Assistant professor	19.5%	n = 8
Professional Role	Teaching faculty (former director)	12.1%	n = 5
	Visiting faculty	14.6%	n = 6
	Adjunct faculty	2.4%	n = 1
	Preferred not to answer	7.3%	n = 3
	< 1 year	14.6%	n = 6
	1-3 years	14.6%	n=6
	4-7 years	9.8%	n = 4
Years at University	8-12 years	19.5%	n = 8
·	13-17 years	22%	n = 9
	> 18 years	14.6%	n = 6
	Preferred not to answer	4.9%	n=2
	Attended UR	4.9%	n = 2
Alumni Status	Did not attend UR	93%	n = 38
	Preferred not to answer	2.4%	n = 1

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¹ Participants were prompted with the following question: "Do you identify as a member of one or more historically or currently marginalized groups (e.g. a person of color, a member of the LGBTQIA+ community, older than 65, a woman, etc.)?". To ensure anonymity and privacy, demographic information that would make participants easily identifiable was not collected.

Procedure

Approval was obtained for the study prior to data collection from the University of Richmond's Institutional Review Board in July 2024, and faculty members were surveyed online from September to December 2024. The survey was administered through Qualtrics and was estimated to take approximately 25 minutes to complete for each participant. Faculty members were recruited through email, campus listservs, and word of mouth. For their time, faculty members were offered the chance to win one of ten \$50 Amazon gift card claim codes.

Measures

All items measured participants' attitudes, opinions, and behaviors on a Likert-type scale of agreeableness (1 = Strongly Disagree, 7 = Strongly Agree). Although not formally analyzed, open-ended responses were collected. Please see Appendix A for a comprehensive list of measures. **Sense of Belonging.** Sense of belonging was measured in three domains: University Affiliation (14 items, $\alpha = .95$; e.g., "I feel appreciated by [the university]"), Connection with Students (8 items, $\alpha = .88$; e.g., "Many of my students care about me"), and Connection to Department² (8 items, $\alpha = .98$; e.g., "I feel like I can be myself in my department"). These items were adapted from and inspired by a variety of belongingness measures, including the Workplace Belongingness Scale (Bergeron et al., 2023; Jena & Pradhan, 2018), the Basic Psychological Need Satisfaction at Work Scale (Deci et al., 2001; Ilardi et al., 1993; Kasser et al., 1992), the Psychological Sense of School Membership (PSSM) Scale (Goodenow, 1993), the Sense of Belonging Instrument-Antecedents subscale (SOBI-A; Hagerty, & Patusky, 1995), the Departmental Sense of Belonging and Involvement (DeSBI) Questionnaire (Knekta et al., 2020), the Sense of Social Fit (SSF) Scale (Walton & Cohen, 2007), and the University Affiliation

² Participants were given the following instructions to clarify the use of the term "department": "We use the term 'department' throughout. But, if your primary work group is a program or other academic unit, please feel free to consider that group when responding to the items."

subscale of the University Belongingness Questionnaire (UBQ; Slaten et al., 2018). **Motivation to Belong.** These items largely paralleled the Sense of Belonging measures, with the addition of the phrase "It is important to me that..." before each item: University Motivation (9 items, α = .94, e.g., "It is important to me that I feel appreciated by [the university]"), Student Motivation (8 items, α = .91, e.g., "It is important to me that many of my students care about me"), Department Motivation (8 items, α = .93, e.g., "It is important to me that I feel like I can be myself in my department").

Belonging as an Institutional Priority. Opinions on belonging as an institutional priority, its value, and faculty roles in fostering belonging were measured through 9 items developed by the researchers, $\alpha = .92$, e.g., "[The university] focuses too much on belonging and not enough on academic rigor" (reverse-scored).

Burnout. Burnout was measured using 16 items excerpted from the Oldenburg Burnout Inventory (Demerouti et al., 2003), $\alpha = .88$; e.g., "Sometimes I feel sickened by my work tasks."

Intention to Leave the Institution. Intention to leave the institution was measured using 8 items excerpted and adapted from measures reported in Meyers and Allen (1993), α = .91; e.g., "I am likely to leave [the university] in the next two years."

Results

Summary information for all variables of interest can be found in Table 2.

Does Less Belonging Predict Negative Outcomes?

Faculty who report lower belonging on all levels (institutional, departmental, and student connections) experience higher levels of burnout ($rs \ge -.34$; $ps \le .03$). Interestingly, only faculty members who feel lesser belonging at the institutional and departmental levels have stronger

desires to leave the university ($rs \ge -.63$, $ps \le .001$); the correlation between connection with students and desires to leave is not significant (r = -.22, p = .16).

Does More Belonging Predict Positive Outcomes?

Faculty members who feel more belonging overall are more likely to see belonging as an institutional priority (rs = .40; p ≤ .01). Faculty belonging to the institution and students were related to motivations to belong on both levels (rs = .42; p ≤ .006); motivation to belong to department is not significantly correlated with felt departmental belonging (r = .17, p = .28).

Demographic Predictors of Burnout

To evaluate the relationship between participant demographics and burnout, I conducted a series of independent samples t-tests and one-way between-subjects ANOVAs using Tukey post-hoc tests to examine pairwise comparisons. Faculty members with significant caregiving responsibilities experience higher levels of burnout than those without (t(36) = -2.03, p = .05, d = .75). Faculty members who have been at the university for 4+ years experience higher levels of burnout than faculty who have been at the university less than 3 years (F(5, 35) = 2.80, p = .03; Tukey-adjusted $p \ge .10$). No other demographic variables significantly predicted burnout.

Table 2: Correlation Matrix of Study 1 Variables

Variable	М	SD	1	2	3	4	5	6	7	8	9
1. University Affiliation	4.77	1.37									
2. Student Connection	5.97	0.69	.412**								
3. Department Connection	5.02	1.76	.648***	.278							
4. Motivation (University)	5.89	0.98	.421**	.363*	.105						
5. Motivation (Students)	6.32	0.72	.302	.663***	.068	.682***					
6. Motivation (Department)	6.33	0.66	.248	.437**	.172	.726***	.735***				

7. Institutional Priority	5.91	0.96	.611***	.488**	.397*	.411**	.481**	.525***		
8. Burnout	3.38	1.09	611***	520***	340*	224	243	149	358**	
9. Intention to Leave	3.54	1.53	717***	221	634***	312*	097	173	314*	.476**

Reports M, SDs, and Pearson's correlations (r) between variables of interest. *** p < 0.001, ** p < 0.01, * p < 0.05.

Discussion

For faculty members, experiencing higher levels of belonging predicted not only lower levels of burnout and lesser intentions to leave the university, but also predicted greater support for belonging as institutional and pedagogical priority, suggesting our proposed ripple effect of faculty belonging on student belonging. However, our results also indicate that students may be instrumental in improving faculty belonging. The connections faculty form with their students are associated with decreased intentions to leave and lesser burnout, leading us to expand our Study 2 purpose to incorporate student facilitators of faculty belonging as well.

Study 2

While our original research proposal honed in on faculty facilitators of student belonging, our discovery of the relationship between faculty belonging and faculty burnout and desires to leave the institution among our participants in Study 1 had us instead prioritize (1) how faculty can improve student experiences in the classroom *and* (2) how students may contribute to a virtuous cycle of belonging to mitigate faculty burnout and other psychosocial stressors.

Faculty Facilitators of Student Belonging in the Classroom

Faculty Warmth

As a key dimension of social cognition, perceived warmth determines our initial impressions of and the likelihood of further engagement with others (Fiske, 2018). As

hypothesized by the Stereotype Content Model (SCM), warmth may be characterized by perceptions of another's trustworthiness and friendliness; the more trustworthy and friendly a person is perceived to be, the more likely we are to perceive them as warmer (Fiske et al., 2002). In the classroom, when students perceive their professor to be warmer, they may be more motivated to engage with their professors inside and outside of the classroom, have stronger relationships with and have greater trust in their professors, and greater affective and cognitive learning (Mottet et al., 2004; Moudgalya et al., 2021; Teven & McCroskey, 1997).

Faculty Competence

As another key dimension of social cognition, perceived competence also determines our initial impressions of and the likelihood of further engagement with others (Fiske, 2018). The SCM characterizes competence as perceptions of another's capabilities and assertiveness; the more capable and assertive a person is perceived to be, the more likely we are to perceive them as competent (Fiske et al., 2002). In an academic setting, students are drawn to professors who are more competent, as characterized by depth of knowledge, skills, and professional attitudes, because of the general belief that these professors will effectively communicate course information and provide further avenues for academic success (Kunter et al., 2013).

Agency–Communication (A–C) Framework suggests that perceptions of warmth and competence are combined to formulate stereotypes, assigning specific values, motives, and personality traits to individuals within a common group (Abele et al., 2016). However, perceived warmth and competence may have an inverse relationship; if a faculty member is perceived as more warm, they may be perceived as less competent (Fiske, 2018). This phenomena unfortunately impacts female professors the most, as they struggle to balance being both

respected by and relational with their students more than their male counterparts (Nesdoly et al., 2020).

Faculty Self-Disclosure

When faculty members exhibit more self-disclosure tendencies (e.g., discussing intimate anecdotes or shared challenges), their students are reciprocally more likely to self-disclose in return. The interpersonal atmosphere created by faculty in the classroom is instrumental in increasing feelings of humility between faculty and students (Goldstein & Benassi, 1994). For currently or historically marginalized group members, such as members of LGBTQIA+, faculty members who signal their marginalized sexual orientation or gender identities to students belonging to the same or similar marginalized groups may increase student comfortability both in their own identities and in the classroom (Jennings, 2010). The presence of self-disclosure additionally may foster greater academic outcomes, as illustrating a course concept through the disclosure of personal information (pertinent to the class subject) has been found to lead to better student learning (Hill et al., 2021).

Given the three constructs discussed above, Study 2 utilized a between-subjects experimental design to present students with one of three ostensibly faculty-written welcome emails containing classroom identical expectations and policies prior to the first day of class. These three conditions conveyed heterogeneity in faculty members' warmth and self-disclosure (Condition 1: Low Warmth, Low Self-Disclosure; Condition 2: High Warmth, Low Self-Disclosure; and Condition 3: High Warmth, High Self-Disclosure) while- assessing students' perceived experiences in the classroom, as characterized by perceptions of warmth and competence, feelings of belongingness, trust, academic engagement, and academic success. The

co-occurence of warmth and self-disclosure (specifically in Condition 3) should predict the most positive classroom experience.

Method

Participants

Participants were full-time University of Richmond undergraduate students (N = 206). See Table 3 for demographic characteristics.

Table 3

Variable	Response	Percentage of Participants	Number of Participants
	African-American, Black, African, Caribbean	3.9%	n = 8
	East Asian-American, East Asian	9.2%	n = 19
	European-American, White, Anglo, Caucasian	51.9%	n = 107
Racial/Ethnic Identity	Hispanic, Latino(a,x), Chicano(a,x), Spanish Origin	6.3%	n = 13
•	Middle Eastern, North African	0.5%	n = 1
	South Asian-American, South Asian	4.4%	n = 9
	Southeast Asian-American, Southeast Asian	6.3%	n = 13
	Not listed or prefer to self-discribe	0.5%	n = 1
	Multiracial or biracial	14.1%	n = 29
	Preferred not to answer	2.9%	n = 6
	First year	26.2%	n = 54
	Second year	23.3%	n = 48
Class Standing	Third year	27.2%	n = 56
	Fourth year	20.9%	n = 43
	Preferred not to answer	2.4%	n = 5
	Yes	10.2%	n = 21
International Student	No	88.8%	n = 183
	Prefer not to answer	1.0%	n = 2
	Woman	62.1%	n = 128
	Man	34.9%	n = 72
Gender Identity	Non-binary	1.0%	n=2
	Gender queer	0.5%	n = 1
	Prefer not to answer	1.5%	n = 3
	Yes	0%	n = 0
Transgender	No	98.5%	n = 203

	Prefer not to answer	1.5%	<i>n</i> = 3
	Asexual	1.0%	n = 2
	Bisexual	14.6%	n = 30
	Heterosexual or straight	69.9%	n = 144
	Homosexual or gay or lesbian	4.4%	n = 9
Sexual Orientation	Pansexual	1.0%	n = 2
	Queer	2.4%	n = 5
	Questioning	1.0%	n = 2
	Prefer to self-describe	0.5%	n = 1
	Prefer not to answer	5.3%	n = 11
	Yes	15.0%	n = 31
Disability/Chronic Condition	No	79.6%	n = 164
	Prefer not to answer	5.3%	n = 11
	Strongly liberal	13.1%	n = 27
	Moderately liberal	34.0%	n = 70
	Slightly liberal	14.1%	n = 29
Political	In the middle	17.5%	n = 36
Identity	Slightly conservative	10.2%	n = 21
	Moderately conservative	7.8%	n = 16
	Strongly conservative	1.0%	n=2
	Prefer not to answer	2.4%	n = 5

Procedure

Approval was obtained for the study prior to data collection from the University of Richmond's Institutional Review Board in March 2025, and students were surveyed from March to April 2025. The survey was administered through Qualtrics and was estimated to take approximately 10 minutes or less to complete. Students were incentivized to participate with a \$5 Amazon gift card claim code or research participation credit for an introductory psychology course.

Measures

Although not formally analyzed, open-ended responses and two attention check questions (true-or-false) were collected. Please see Appendix B for a comprehensive list of measures.

Faculty Warmth. Perceptions of faculty warmth were measured using six 5-point semantic differential items adapted from Abele et al. (2016) and Fiske (2018), α = .91, e.g., *very cold* to *very warm*.

Faculty Competence. Perceptions of faculty competence were measured using six 5-point semantic differential items adapted from Abele et al. (2016) and Fiske (2018), $\alpha = .82$, e.g., not at all competent to very competent.

Sense of Belonging. Sense of belonging was measured using 10 items excerpted and adapted from Moudgalya et al. (2021), α = .95, e.g., "In this class, I would feel a connection with the classroom community," $1 = strongly \ disagree$, $7 = strongly \ agree$.

Trust in Faculty. Trust was measured using two items excerpted and adapted from Moudgalya et al. (2021), r = .74, e.g., "Even when I did poorly, I would trust Professor M to have faith in my potential," $1 = strongly\ disagree$, $7 = strongly\ agree$.

Academic Engagement. Academic engagement was measured using six items inspired by Allen et al. (2024), α = .89, e.g., "[How likely are you to] interact with the professor outside of class"; 1 = *very unlikely*, 7 = *very likely*.

Academic Success. Academic success was measured using three items inspired by Allen et al. (2024), α = .80, e.g., "It would be important to me to do well in this class," 1 = strongly disagree, 7 = strongly agree.

Belonging as an Institutional Priority. An adapted version of the scale used in Study 1 was also used to measure students' sense of belonging as a priority for both the institution and instructors, but this time from the students' perspectives, in Study 2 (9 items; $\alpha = .84$).

Results

Summary information for all variables of interest can be found in Table 4.

Differences by Condition

To evaluate the effect of faculty condition on student perceptions and anticipated experiences, I conducted a series of one-way between-subjects ANOVAs using Tukey post-hoc tests to examine pairwise comparisons. In each of the six tests, the overall F test was significant, $Fs(2, 203) \ge 3.31$, $ps \le .039$), indicating a statistically significant relationship between faculty condition and student-reported outcomes. For a visual representation of condition differences, see Figure 1.

Relative to Condition 1 (Low Warmth, Low Self-Disclosure), students assigned to Conditions 2 and Condition 3 perceived the faculty member as warmer, and anticipated more belonging, trust in faculty, academic engagement, and academic success (all Tukey-adjusted $ps \le .001$), though the differences between Conditions 2 and 3 were not statistically significant (Tukey-adjusted $ps \ge .34$).

Contrary to our initial hypothesis, students assigned to Condition 2 (High Warmth, Low-Self Disclosure) perceived their professor as more competent than students in Condition 3 (High Warmth, High Self-Disclosure; Tukey-adjusted p = .039). Competence judgments in Condition 1 were not statistically significantly different from those in Conditions 2 and 3 (Tukey-adjusted $ps \ge .15$).

Do Perceptions of Faculty Warmth Predict Better Student Outcomes?

Students who perceived their faculty member as warmer additionally anticipated higher classroom belonging (r = 0.86; p < .001), trusted their professor more (r = .77; p < .001), were more likely to engage with the course (r = .74; p < .001), and anticipated greater academic success (r = .55; p < .001).

Do Perceptions of Faculty Competence Predict Better Student Outcomes?

In comparison to faculty warmth, perceptions of faculty competence were more weakly though still positively correlated with belonging (r = .30, p < .001), trust (r = .86, p < .001), academic engagement (r = .40, p < .001), and success (r = .39, p < .001).

Table 4: Correlation Matrix of Study 2 Variables

	M	SD	1	2	3	4	5	6	7
1. Faculty Warmth	3.92	0.87		.423***	.855***	.768***	.738***	.551***	.025
2. Faculty Competence	4.01	0.66			.304***	.307***	.405***	.388***	.222**
3. Belonging	4.81	1.22				.789***	.737***	.556***	.064
4. Trust in Faculty	5.13	1.44					.729***	.540***	019
5. Academic Engagement	5.34	1.25						.557***	.106
6. Academic Success	6.03	0.88							.121
7. Institutional Priority	5.45	0.84							
5. Academic Engagement6. Academic Success	5.34 6.03	1.25 0.88					.729***		

Reports Ms, SDs, and Pearson's correlations (r) between variables of interest. ***: p < 0.001, **: p < 0.01.

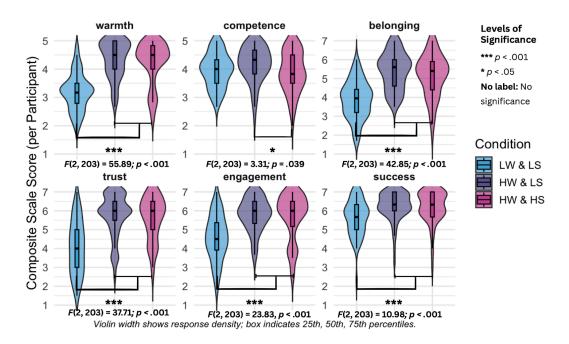


Figure 1: Differences by Condition: One Way Between-Subjects ANOVAs

General Discussion

Consistent with our first hypothesis, more perceived faculty warmth predicts more student belonging, trust, and academic engagement and success. This finding mirrors prior research on faculty warmth; when faculty exude warmth (e.g., through being open and encouraging) in the classroom, students report greater belonging, academic self-efficacy, and motivation to succeed (Freeman et al., 2007). Importantly, contrary to faculty beliefs, more leniency in course expectations and grading is not necessary to achieve these positive student outcomes. While the course welcome emails were varied in interpersonal tone and self-disclosure, the lists of expectations were identical in policy.

Unexpectedly, when paired with more warmth, high self-disclosure predicts less perceived faculty competence. While not as highly correlated with student belonging, trust, and academic engagement and success as faculty warmth is, faculty competence remains significantly instrumental in predicting positive student experiences in the classroom. Consistent

with past literature, competence is an important facet of how students judge professors and therefore how likely they are to benefit from faculty guidance and mentorship (e.g., Kirby & Thomas, 2022). While our findings indicate that faculty members should self-disclose less in the classroom, a resulting consequence may be less student comfortability in disclosing key aspects of their identities, such as sexual orientation or gender identity (Jennings, 2010). A possible avenue for intervention is discussed in Limitations and Future Directions.

Students' perception of a faculty member as competent (e.g., respected) is highly related to faculty's sense of belonging (i.e., feeling respected). Thus, a virtuous cycle between faculty and student belonging may be present. Our Study 1 results indicated that faculty belonging may be higher in the presence of greater institutional resources and support, respect from students, and having a say in their departments. However, it is important to note that stronger connections with students are strongly related to faculty retention. When experiencing heightened belonging, faculty report lower levels of burnout and decreased desires to leave their institution, which may denote greater professional success and mental well-being (e.g., Wilson et al., 2025), and can improve student experiences in the classroom. A few of the many ways faculty can support student belonging include: exuding greater warmth, promoting belonging as an institutional and pedagogical priority, creating inclusive classrooms (e.g., through identity safety cues in syllabi; Maimon et al., 2023), and building pedagogical partnerships (e.g., Cook-Sather & Felten, 2017). When students feel a greater sense of belonging, they are more likely to participate in the classroom, believe they can succeed academically, and, consequently, foster faculty belonging.

To accelerate the ripple effects of belonging, faculty perceptions of "having a say" should be targeted, as this should enhance their connections to their departments and the university at large. One avenue for faculty members seeking leadership roles in their institutions is through

shared governance. In a faculty senate specifically, participating faculty are instrumental in the development and formation of institutional decisions and policies that impact both themselves and the greater campus community (McNaughtan et al., 2024). Although increasingly more controversial in the current socio-political climate, institutions that place an emphasis on Diversity, Equity, and Inclusion (DEI) through a dedicated office or within departments help to create an inclusive environment for both faculty and students, especially those part of historically or currently marginalized groups (e.g., people of color, members of the LGBTQIA+ community, older than 65, and women; Sunds et al., 2023). Future research should examine how to effectively initiate this virtuous cycle and further predict how students impact faculty belonging.

Limitations and Future Directions

Study 1

Although our pilot study yielded promising results, specifically in the correlations between our variables of interest, our small sample size (N = 41) and focus on a singular institution may have limited the significance of our findings at large. Importantly, the majority of our findings relied on correlational instead of cause-and-effect relationships. Future research should examine the relationships between variables experimentally with larger samples and across multiple academic institutions.

Study 2

Even though lower self-disclosure predicted better student outcomes in Study 2, this result may have been influenced by a flaw in our research design; since all five classroom policies were individually varied by interpersonal tone and self-disclosure, the presence of high self-disclosure in Condition 3 may have become redundant. Our operationalization of self-disclosure was also a direct statement of perspective-taking (e.g., "I've been in your shoes").

Future studies should explore whether other types of self-disclosure (e.g., humanizing details about one's life, course-relevant personal information; e.g., Hill et al., 2021). Although not central to our research focus, an overwhelming majority of the scholarly work on faculty warmth and competence examines differences in perceptions by faculty gender (Nesdoly et al., 2020). In the open-ended portions of our study, some students defaulted to she/her or he/him pronouns, suggesting that we may have found a significant difference in perceptions of faculty gender if assessed.

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Appendix A

Belonging

On the following pages, there are three sub-scales used to measure your own sense of belonging, including your affiliation to the university, your connection with your students, and your connection to your department. It is important to note that, because many of the items sound similar, we encourage you to please read each question in its entirety to ensure you are answering correctly for each section.

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

Connection with Students (Belonging Component)

We are interested in learning more about *your personal experiences of (not) belonging* with your students inside and outside of the classroom.

I feel a sense of belonging in the classroom.

I feel like I can be myself in the classroom.

I have a say about what goes on in my classroom.

Most of my students are interested in me and what I have to say.

My students respect me.

I feel connected to my students.

I feel appreciated by my students.

Many of my students care about me.

Please feel free to add any clarifying comments or feedback here:

University Affiliation (Belonging Component)

The following questions are intended to gauge **how strongly you identify** with the [university] as an institution.

I belong at the [university].

I feel like I can by myself at the [university].

I have a say about what goes on at the [university].

Many people at the [university] are interested in me and what I have to say.

People at the [university] respect me.

I feel connected to the [university].

I feel appreciated by the [university].

Many people at the [university] care about me.

I have supportive resources available to me on campus.

I believe I have enough support to be successful here.

I take pride in wearing [university]-branded clothing.

I would be proud to support the [university] in any way I can in the future.

I have [university]-branded material that others can see (pens, notebooks, bumper stickers, etc.).

I attend university events (e.g., sports, performing arts) to support the [university].

Please feel free to add any clarifying comments or feedback here:

Connection to Department (Belonging Component)

We are interested in learning more about your *personal experiences of (not) belonging within your department*. We use the term "department" throughout. But, if your primary work group is a program or other academic unit, please feel free to consider that group when responding to the items.

I feel a sense of belonging in my department.

I feel like I can be myself in my department.

I have a say about what goes on in my department.

Most of my faculty colleagues are interested in me and what I have to say.

My faculty colleagues respect me.

I feel connected to my faculty colleagues.

I feel appreciated by my faculty colleagues.

Many of my faculty colleagues care about me.

Please feel free to add any clarifying comments or feedback here:

Open-Ended Questions on Belonging

To help us better understand your answers to the previous items, please respond to the two prompts below. As a reminder, your individual responses are not linked to identifying information about you and will be kept confidential.

In a few sentences, please describe what it is that makes (or would make) you feel that you are a part of, or belong at, the [university]. In other words, what factors contribute to your sense of belonging here?

In a few sentences, please describe what it is that makes (or would make) you feel that you are LESS or are NOT a part of, or belong at, the [university]. In other words, what factors

Motivation to Belong

On the following pages, there are three sub-scales intended to measure your **motivation to belong** at the [university], with your students, and within your department. These items parallel the sub-scales used in the Belonging section, but focus instead on how much you want or are *motivated* to belong; please note this difference and **do not just repeat your answers** from before.

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

Motivation to Belong to The University (Motivation to Belong Component)

In this sub-scale, we are interested in how important it is to you personally to belong to the [university] as an institution. Again, please answer in terms of your motivation to belong, not your lived experiences of belonging.

It is important to me...

- that I belong at the [university].
- that I can be myself at the [university].
- that I have a say about what goes on at the [university].
- That many people at the [university] are interested in me and what I have to
- that people at the [university] are interested in me and what I have to say.
- that I feel connected to the [university].
- that I feel appreciated by the [university].
- that many people at the [university] care about me.
- that I have supportive resources available to me on campus.

Please feel free to add any clarifying comments or feedback here:

Motivation to Belong with Students (Motivation to Belong Component)

In this sub-scale, we are interested in how important it is to you personally to belong with your students inside and outside of the classroom. Again, please answer in terms of your motivation to belong, not your lived experiences of belonging.

It is important to me...

- that I feel a sense of belonging in the classroom.
- that I feel like I can be myself in the classroom.

- that I have a say about what goes in my classroom.
- that most of my students are interested in me and what I have to say.
- that my students respect me.
- that I feel connected to my students.
- that I feel appreciated by my students.
- that many of my students care about me.

Please feel free to add any clarifying comments or feedback here:

Motivation to Belong within Department (Motivation to Belong Component)

In this sub-scale, we are interested in *how important it is to you personally to belong within your department.* Again, **please answer in terms of your motivation to belong**, not your lived experiences of belonging. We use the term "department" throughout. But, if your primary work group is a program or other academic unit, please feel free to consider that group when responding to the items.

It is important to me...

- that I feel a sense of belonging in my department.
- that I feel like I can be myself in my department.
- that I have a say about what goes on in my department.
- that most of my faculty colleagues are interested in me and what I have to say.
- that my faculty colleagues respect me.
- that I feel connected to my faculty colleagues.
- that I feel appreciated by my faculty colleagues.
- that many of my faculty colleagues care about me.

Please feel free to add any clarifying comments or feedback here:

Belonging as an Institutional and Pedagogical Priority

The [university]'s strategic plan names "Belonging and Community" as one of its strategic priorities. In this section, we are interested in *learning about your perspective on that strategic choice*. Please note that while these questions do not particularly ask about your personal experiences, you are welcome to draw on them. As a reminder, at the end of this section and all others, there is space for you to expand on any of your answers (i.e. for clarity or to express internal conflict) and/or to relay confusion and concerns relating to any of the following items.

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree) "Belonging and Community" should be one of the [university]'s top priorities.

I care about fostering belonging and community on campus.

It is important to me that the [university] prioritizes "Belonging and Community."

The [university] focuses too much on belonging and not enough on academic rigor.

Students who feel like they belong are more likely to succeed academically.

Focusing too much on belonging does not prepare students well for the real world.

Faculty are responsible for fostering belonging in their classrooms.

Given their other responsibilities, instructors shouldn't need to worry about students' belonging, too.

Helping students feel like they belong is one of my top priorities as an instructor.

Please feel free to add any clarifying comments or feedback here:

Burnout

In this section, we are interested in learning more about how well you feel like you can manage your work and how it makes you feel. By "my work," we are primarily interested in your work teaching and mentoring undergraduate students.

```
(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree
Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)
```

I always find new and interesting aspects in my work.

There are days when I feel tired before I arrive at work.

It happens more and more often that I talk about my work in a negative way.

After work, I tend to need more time than in the past in order to relax and feel better.

I can tolerate the pressure of my work very well.

Lately, I tend to think less at work and do my job almost mechanically.

I find my work to be a positive challenge.

During my work, I often feel emotionally drained.

Over time, I have become disconnected from this type of work.

After working, I have enough energy for my leisure activities.

Sometimes I feel sickened by my work tasks.

After my work, I usually feel worn out and weary.

This is the only type of work that I can imagine myself doing.

Usually, I can manage the amount of my work well.

I feel more and more engaged in my work.

When I work, I usually feel energized.

Please feel free to add any clarifying comments or feedback here:

Desires to Leave the Institution

The items on this page measure *how likely you are to remain at the [university]*. It is worth reminding you, at this point, that your individual responses are not linked to identifying information about you and will be kept confidential.

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

I frequently think about leaving the [university].

I frequently think about leaving academia.

I am likely to search for other jobs within the next two years.

I am likely to leave the [university] in the next two years.

I would be very happy to spend the rest of my career at the [university].

I do not feel "emotionally attached" to the [university].

I do not feel any obligation to remain at the [university].

I feel a responsibility to the [university] to continue working here.

Please feel free to add any clarifying comments or feedback here:

Appendix B

Professor Profiles

(participants will be randomly assigned to view one of the following three profiles)

Imagine that you are enrolled in a course that is required for your major taught by Professor M. Prior to the first day of class, Professor M sends a welcome email that includes a list of classroom policies. Please read the email below carefully. You will then answer a series of questions about your impressions of the professor and how you might feel in their class.

Profile #1: Low Warmth, Low Self-Disclosure

Subject: Welcome to [Course Name] – Important Information and Policies

Welcome to [Course Name]! I am Professor M, and I am delighted to have you in this class. This course will be an opportunity for us to explore [course topic].

To ensure that everyone has a clear understanding of expectations, please review the following key classroom policies:

- Attendance: I know that many students struggle with balancing personal and academic challenges. That said, attendance is required, and unexcused absences will affect your grade. If you must miss a class due to exceptional circumstances, please provide a note from the Dean's Office.
- **Communication:** I will primarily communicate through email and Blackboard. So, please plan to check both regularly. I typically respond to emails within one business day. Please do not expect responses from me at night and on the weekends.
- Office Hours: My office hours are on Mondays and Fridays, 1:30 3:00 pm. Meetings outside of these designated hours are not guaranteed. If you feel like you have questions or concerns, I encourage you to attend.
- Late Assignments: I acknowledge that this course load may seem heavy at times. But late assignments will be penalized by 10% each day. Extensions may be granted in rare cases. It is your responsibility to stay on top of your coursework.
- **Participation:** Participation is vital to your success in this course. I want to hear everyone's thoughts and opinions in this classroom. Your participation grade is a direct reflection of your contributions to our discussions. You must make a meaningful effort to participate in every class session.

I am looking forward to a great semester with all of you. See you in class!

Best, Professor M

Profile #2: High Warmth, Low Self-Disclosure

Subject: Welcome to [Course Name] – Important Information and Policies

Welcome to [Course Name]! I am Professor M, and I am delighted to have you in this class. This course will be an opportunity for us to explore [course topic].

To ensure that everyone has a clear understanding of expectations, please review the following key classroom policies:

- Attendance: Attendance is required, and unexcused absences will affect your grade. That said, I understand that things come up. I know that many students struggle with balancing personal and academic challenges. Please let me know if you need support.
- **Communication:** I will primarily communicate through email and Blackboard. So, please plan to check both regularly. I strive to respond to emails as soon as possible, though you can expect that it may take me a day to respond (longer on the weekends).
- Office Hours: My office hours are on Mondays and Fridays, 1:30 3:00 pm, though you are welcome to request an appointment at an alternative time. If you feel like you have questions or concerns, I encourage you to attend.
- Late Assignments: Late assignments will be penalized by 10% each day. At the same time, I acknowledge that this course load may seem heavy at times. If you need an extension, please do not hesitate to discuss the situation with me. I want to help you succeed.
- **Participation:** Participation is vital to your success in this course. I want to hear everyone's thoughts and opinions in this classroom. But, I understand that off-days are inevitable. I will keep that in mind when determining your participation grade.

I am looking forward to a great semester with all of you. See you in class!

Best, Professor M

Profile #3: High Warmth, High Self-Disclosure

Subject: Welcome to [Course Name] – Important Information and Policies

Welcome to [Course Name]! I am Professor M, and I am delighted to have you in this class. This course will be an opportunity for us to explore [course topic].

To ensure that everyone has a clear understanding of expectations, please review the following key classroom policies:

- Attendance: Attendance is required, and unexcused absences will affect your grade. That said, I understand that things come up. I have struggled with balancing personal and academic challenges myself. Please let me know if you need support.
- Communication: I will primarily communicate through email and Blackboard. So, please plan to check both regularly. I strive to respond to emails as soon as possible. Given that I have a full life outside the classroom (as I know you do), you can expect that it may take me a day to respond (longer on the weekends).
- Office Hours: My office hours are on Mondays and Fridays, 1:30 3:00 pm, though you are welcome to request an appointment at an alternative time. Whenever I felt like I had questions or concerns when I was falling behind in college, attending office hours was always helpful. I encourage you to do the same.
- Late Assignments: Late assignments will be penalized by 10% each day. At the same time, I've been in your shoes before and I know (from experience) how easy it is to struggle with a heavy course load. If you need an extension, please do not hesitate to discuss the situation with me. I want to help you succeed.
- **Participation:** Participation is vital to your success in this course. I often felt as though my voice was not heard in the classroom, so I want to make sure everyone's thoughts and opinions are valued. But, I understand that off-days are inevitable. I will keep that in mind when determining your participation grade.

I am looking forward to a great semester with all of you. See you in class!

Best, Professor M Respond to the following statements regarding your *perceived experience in the classroom with Professor M.*

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(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)
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What are your first impressions of Professor M? (Don't overthink your response. It's best to go with your intuition.)

Perceptions of Professor's Warmth

5-point response scales:

very cold to very warm

not at all caring to very caring

very unfriendly to very friendly

very inconsiderate to very considerate

very dishonest to very honest

not at all fair to very fair

Perceptions of Professor's Competence

5-point response scales:

not at all competent to very competent

not at all intelligent to very intelligent

not at all capable to very capable

not at all respected to very respected

very unassertive to very assertive

not at all confident to very confident

Sense of Belonging

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

In this class, I would feel:

• that I belong

- a connection with the classroom community
- accepted
- respected
- valued
- appreciated
- anxious
- comfortable
- tense
- calm

Trust

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

Even when I did poorly, I would trust the professor to have faith in my potential.

I would trust the professor to be committed to helping me learn.

Academic Engagement

Based on this email and your first impressions of Professor M, how likely would you be to:

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(1 = Very Unlikely, 2 = Somewhat Unlikely, 3 = Slightly Unlikely, 4 = Neither Likely Nor Unlikely, 5 = Slightly Likely, 6 = Somewhat Likely, 7 = Very Likely)
```

- email the professor with questions
- interact with the professor outside of class
- ask the professor for advice
- attend the professor's office hours
- participate in class
- ask the professor for help if you were struggling

Academic Success

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

It would be important to me to do well in this class.

I would put great effort into succeeding in this class.

I would expect to be academically successful in this class.

True or False Questions

Please respond to the following true or false questions about Professor M's policies.

Professor M's office hours are on Mondays and Fridays, 1:30 - 3:00 pm. (True) Late assignments will be penalized by 20% each day. (False)

Please feel free to a	dd any clarifying con	nments here:	

Belonging as an Institutional and Pedagogical Priority

The [university]'s strategic plan names "Belonging and Community" as one of its strategic priorities. In this section, we are interested in *learning about your perspective on that strategic choice*. Please note that while these questions do not particularly ask about your personal experiences, you are welcome to draw on them. At the end of this section, there is space for you to expand on any of your answers (for example, if you want to clarify or explain your response).

(1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Slightly Disagree, 4 = Neither Agree Nor Disagree, 5 = Slightly Agree, 6 = Somewhat Agree, 7 = Strongly Agree)

"Belonging and Community" should be one of the [university]'s top priorities. I care about fostering belonging and community on campus.

It is important to me that the [university] prioritizes "Belonging and Community."

The [university] focuses too much on belonging and not enough on academic rigor. Students who feel like they belong are more likely to succeed academically. Focusing too much on belonging does not prepare students well for the real world.

Professors are responsible for fostering belonging in their classrooms.
Given their other responsibilities, professors shouldn't need to worry about students' belonging,
too.
Helping students feel like they belong should be a professor's top priority.
Please feel free to add any clarifying comments here: