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An Exploratory Study of Mindsets, Sense of Belonging, and Help-Seeking in the Writing Center

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Abstract   In this exploratory study, we took as our point of departure Lori Salem's (2016) call to investigate the factors that affect students' decisions to visit the writing center. Rather than exploring student decision-making through a sociological lens, as Salem does, we drew on insights from social psychology to understand students' motivations. We explored two self-theories drawn from social psychology that are associated with students' academic achievement and with students' help-seeking: (1) implicit beliefs about intelligence or "mindsets"; and (2) sense of belonging. Using questions from previously validated scales, we measured first-year students' mindsets and sense of belonging and tested the relationships between these self-theories and students' visits to the writing center. We found correlations between students' mindsets and their willingness to seek support, but the relationships differed between minoritized students and comparison students. Although the numbers are modest, we noted a difference in the relationship between sense of belonging and writing center visits for minoritized students. Our study suggests areas for future research, which has the potential to change the way that writing centers conduct outreach to students and has possible implications both for our marketing efforts and tutor training.

Keywords   mindsets, sense of belonging, implicit beliefs, help-seeking, writing center, writing center visits

In her 2016 *Writing Center Journal* article entitled "Decisions . . . Decisions: Who Chooses to Use the Writing Center?" Lori Salem questions why some students seek support in the writing center while others do not. Analyzing the academic and demographic characteristics of writing center users and nonusers at her institution, Salem finds that, controlling for SAT scores, students who have historically been underrepresented in institutions of higher education—women, students of color, and English language learners—are more likely to visit the writing center than men, White students, and native English speakers. She concludes from these findings that what appears to be a student's choice to visit the writing center is likely the result of a complex interaction between a student's "personal preferences" and "social factors" (Salem, 2016, p. 149.) We make a critical mistake, Salem argues, when we imagine students' decisions are not affected by their social contexts, and she

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encourages us to consider broader environmental factors that shape students' choices to seek help, or more urgently, not to seek help in our writing centers.

Inspired by Salem's work, we set out to investigate factors that are associated with students' decisions to visit the writing center; however, unlike Salem, who takes a sociological approach to her investigation of students' writing center usage patterns, we drew upon insights from social psychology for our study. Sociological approaches like Salem's test for correlations between educational decisions and student demographics like race, class, ethnicity, and gender. Such approaches account for the role that social identity and environment play in an individual student's decision-making, but they provide only limited insight into the systems of belief that might motivate individuals from similar social groups to make similar choices.

Social psychology, by contrast, provides a more nuanced understanding of students' decision-making. Psychosocial theories of motivation and behavior focus on the underlying psychological mechanisms that influence an individual's actions, and they explain how an individual's psychological states are influenced by social contexts (Dweck & Grant, 2008). Such theories assume that our behaviors are a consequence of our internalized belief systems, also known as "self-theories," or the beliefs individuals hold about the self that shape their thoughts, feelings, and behaviors (Dweck, 2000). Self-theories function as "meaning systems" or interpretative frameworks that help people make sense of their experiences. While self-theories originate in the individual, they are informed by the individual's interactions with their social environment. Because self-theories provide a bridge between psychological and sociological explanations for motivation and behavior, they may be especially useful when studying students' academic choices, like the decision to visit the writing center.

Self-theories are particularly compelling because, unlike students' social identities, which cannot be easily altered, self-theories are amenable to change with appropriate "wise" interventions (Miller, 2020; Walton & Cohen, 2011; Yeager & Walton, 2011).[1] Brief exercises that address students' thoughts, feelings, and beliefs about themselves have been shown to produce enduring changes and lead to improved academic performance (Yeager & Walton, 2011). If we understand the self-theories that are associated with help-seeking in the writing center, we can work to shape students' beliefs through our outreach initiatives and through our tutoring encounters (Miller, 2020).

In this exploratory study, we focused on two self-theories that are associated with students' motivation and academic achievement and have been widely researched in the fields of education and psychology: (1) students' implicit beliefs about intelligence (or in more colloquial terms, "mindsets"); and (2) students' sense of belonging. We looked at mindsets and sense of belonging, in particular, because they have been studied together (Broda et al., 2018; Yaeger et al., 2016) and are independently associated with student motivation (Cohen & Garcia, 2008; Walton & Cohen, 2007) and academic achievement (Blackwell et al., 2007; Yeager et al., 2016). Recent research has noted strong relationships between these self-theories and outcomes for minoritized students (Aronson et al., 2002; Cohen & Garcia, 2008; Walton & Cohen, 2007, 2011). Mindsets and sense of belonging also have been shown to have both direct and indirect relationships to students' help-seeking (Karabenick & Dembo, 2011; Karabenick & Newman, 2013; Pintrich, 1999; Yaeger et al., 2016). While self-theories are well researched in other fields, we have only recently begun focusing on these constructs in writing center scholarship (Miller, 2020). Research on help-seeking in the writing center is also limited (Salem, 2016; Williams & Takaku, 2011). This exploratory study sought to address these gaps in our research by identifying motivational constructs that might influence students' decisions to visit the writing center. We asked two specific questions focused on the self-theories of mindsets and sense of belonging:

1. To what extent is mindset related to seeking help in the writing center, either through visiting in the first place or by total frequency of visits?

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2. To what extent is sense of belonging related to seeking help in the writing center, either through visiting in the first place, or by total frequency of visits?

Answers to these questions can help us gain a deeper understanding of students' motivations for using the writing center and offer strategies for encouraging students to visit our centers and to benefit from their experiences.

Mindsets and Sense of Belonging

Our study draws from existing research in psychology and education focused on the constructs of mindsets and sense of belonging and builds on studies of academic help-seeking. A significant body of research supports the association between students' mindsets and their motivations for learning, persistence through academic challenges, and ultimately their academic performance (Blackwell et al., 2007; Dweck, 2000, 2006; Rattan et al., 2015; Robins & Pals, 2002). In her research on student success, Dweck (2000, 2006) focuses on students' implicit theories of intelligence, known as entity theory and incremental theory, or in more colloquial terms, fixed and growth mindsets. Students who possess a fixed mindset believe that they have a finite amount of intelligence, and their intelligence is not something that they can fundamentally change. By contrast, students with a growth mindset believe that their intelligence is malleable, and they can gain intelligence as they learn (Dweck, 2000, 2006; Robins & Pals, 2002). Students with a growth mindset are more likely to be motivated by the desire to learn rather than to achieve a certain grade or to avoid failure (Dweck, 2000, 2006; Robins & Pals, 2002). Such motivations are associated with students' behaviors, including the use of self-regulatory learning strategies like seeking help (Karabenick & Dembo, 2011; Karabenick & Newman, 2013; Pintrich, 1999).

Research also supports the association between sense of belonging and students' academic strategy use, academic performance, and persistence, particularly for minoritized students (Cohen & Garcia, 2008; Walton & Cohen, 2007, 2011; Yeager et al., 2016). Sense of belonging is the feeling that one is socially connected and part of a community (Walton & Cohen, 2007, 2011). When students experience a sense of sense of belonging, they believe that they are treated as equals by their peers, accepted and valued for who they are, and integrated into the social fabric of the community as a necessary part of the group (Strayhorn, 2012).

Multiple studies have shown that a sense of belonging is especially important for minoritized students (Cohen & Garcia, 2008; Walton & Cohen, 2007, 2011). Students who have been historically underrepresented in higher education, like racial and ethnic minorities and women in some academic fields, are often more susceptible to negative stereotypes linked to their social identities (Aronson et al., 2002; Cohen & Garcia, 2008; Steele, 1997) and are likely to enter our institutions already experiencing "belonging uncertainty" (Cohen & Garcia, 2008; Walton & Cohen, 2007, 2011). When minoritized students who are already questioning if they belong at an institution have adverse social interactions—when they encounter social slights or racial bias—these experiences may confirm students' underlying beliefs that they might not belong in college (Walton & Cohen, 2007, 2011) and can be threatening to a student's sense of self (Cohen & Garcia, 2008). Under such threats, students are less likely to engage in behaviors that correlate with academic success (Walton & Cohen, 2007, 2011; Winograd & Rust, 2014). They might experience low motivation and underperform academically relative to their abilities (Cohen & Garcia, 2008; Walton & Cohen, 2007, 2011). Sense of belonging is also associated with students' departures from our colleges and universities (Cohen & Garcia, 2008; Strayhorn, 2012). By contrast, when minoritized students feel that they belong at an institution, they are more likely to seek help from academic support services and perform better academically (Yeager et al., 2016).

Mindsets and sense of belonging are separate psychological constructs, but they work in very similar ways: both are related to students' "attributions," or what students believe
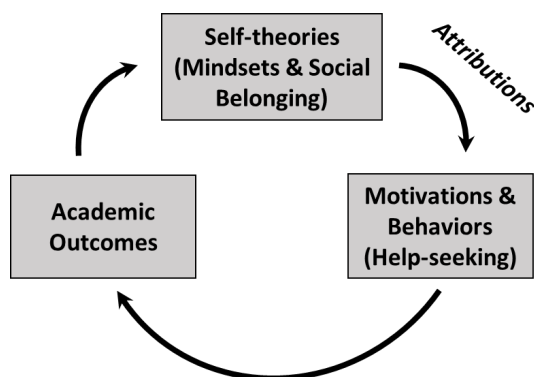
Figure 1. Illustration of how self–theories and students' attributions for successes or failures may lead to motivations and behaviors that affect academic outcomes. These in turn can impact future perceptions of self–theories and attributions.

to be the causes for their successes and failures (Magnusson & Perry, 1992; Yeager & Walton, 2011). When students believe that their academic achievements and struggles are related to aspects of themselves that they can change, they are likely to engage in behaviors that yield positive academic outcomes; however, when students attribute their academic performance to aspects of themselves that they cannot change, they may experience academic struggle as a threat to the self (Dweck & Grant, 2008; Yeager & Walton, 2011). Under such threats, students may be less likely to take action that will make a difference in their academic performance (Dweck & Grant, 2008; Yeager & Walton, 2011). Poor outcomes reinforce students' beliefs about themselves, which in turn motivate their behaviors, and so a self-reinforcing cycle develops (see Figure 1).

Self-Theories in Writing Studies

While research on self-theories and student motivation has been influential in the fields of education and psychology, we have only recently begun to investigate these specific constructs in writing studies. Research in writing studies has focused on other noncognitive factors that affect students' academic performance, including the relationship between epistemological beliefs about writing and writing performance (Charney et al., 1995; Palmquist & Young, 1992), self-efficacy beliefs

(Schmidt & Alexander, 2012), and writing apprehension (Latif, 2019). These studies establish the association between students' beliefs and their performance as writers.

Among the studies that have investigated the specific relationship between students' mindsets and writing performance, Limpo and Alves (2014, 2017) drew from Dweck's mindset scale to create a writing-specific instrument to measure students' beliefs about the malleability of their writing skills. Students with a growth mindset for writing produced better writing with instruction and were more likely to report being confident writers, to persist through difficulty, and to actively address their shortcomings (Limpo & Alves, 2017). Other studies have shown that writers with a growth mindset are more willing to engage productively with constructive feedback (Powell & Driscoll, 2020). A growth mindset was also associated with better knowledge of meta-cognitive strategies for writing and more frequent use of these strategies (Karlen & Compagnoni, 2017).

In one of the few studies to explore mindsets in the context of writing centers, Miller (2020) investigated whether a tutoring intervention staged by course-embedded tutors could change students' beliefs about their writing abilities and affect their writing performance. She found that tutoring was associated both with shifts in students' growth mindsets and the quality of their writing. Our study differs from Miller's in two important ways: (1) While Miller's research focused on students who were required to consult with a course-embedded tutor, our study focuses on students who *chose* to visit the writing center on their own; and (2) while Miller investigated how a brief mindset intervention could affect students' writing performance, we are concerned with the relationship between students' existing beliefs, prior to any intervention, and their decisions to seek help with their writing.

Like research on mindsets and writing, research on sense of belonging and its relationship to writing performance is also limited. In writing studies and writing center scholarship, the most closely related work interrogates the ways that writers' identities affect their

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integration into communities of practice (Englert et al., 2006; Inouye & McAlpine, 2019), disciplines (Englert et al., 2006), and professions (Wardle, 2004). Studies have focused specifically on the experiences of culturally and linguistically diverse students (Haneda, 2006) and graduate students (Kinney et al., 2019; Inouye & McAlpine, 2019). Research focused on writing centers has explored the significance of identities in the context of the writing center (Denny, 2010), the pedagogies of belonging in tutor training courses (Bokser, 2005), and the importance (and difficulty) of creating a welcoming environment in writing centers (Bawarshi & Pelkowski, 1999; Blazer, 2015). Such research suggests that general notions of belonging might have implications for writers and for writing center work. Building on previous research, our study focuses on the specific psychosocial construct of sense of belonging and seeks to test the relationship between sense of belonging and help-seeking in the writing center.

Writing Centers, Self-Theories, and Help-Seeking

Self-theories like mindsets and sense of belonging are useful constructs to investigate in the context of writing centers because they are associated with students' motivations and strategy use (Dweck & Master 2008), and particularly the strategy of seeking help (Winograd & Rust, 2014; Won et al., 2021). Although not all forms of help-seeking are associated with academic success, seeking help can be an effective self-regulatory learning strategy when students are motivated to learn rather than driven by performance outcomes (Williams & Takaku, 2011; Nelson-Le Gall, 1985; Zusho et al., 2007). Research has shown that students' help-seeking behaviors are related to both their beliefs about intelligence and sense of belonging, as well as to their attributional styles more generally. Students are likely to seek help when they believe that doing so will not reflect poorly on their abilities (Magnusson & Perry, 1992), and when they believe that they have the capacity to improve their academic outcomes (Ames & Lau, 1982; Magnusson & Perry, 1992; Williams & Takaku, 2011).

As Salem (2016) has observed, writing center scholarship has noticeable gaps related to academic help-seeking. A number of articles focus on requiring visits in the writing center (Babcock & Thonus, 2012; Clark, 1985; Gordon, 2008; Wells, 2016), and Salem explored the demographic profile of writing center users (Salem, 2016), but very little research has addressed what motivates students to visit the writing center in the first place (Salem, 2016; Williams & Takaku, 2011). Though not specific to writing centers, research has investigated the association between sense of belonging and the use of academic support services. For example, greater levels of sense of belonging were associated with lower levels of self-stigma for academic help-seeking (Winograd & Rust, 2014), while perceived stigma was a prominent factor in students' avoidance of academic support services (Ciscell et al., 2016). Winograd and Rust (2014) found that sense of belonging correlates with students' awareness of academic support services, which is a predictor of their future use of these services, while Yaeger et al. (2016) found a correlation between students' sense of belonging and their actual use of academic support. Because evidence suggests that there is an association between sense of belonging and use of academic support services generally, we believed that this construct, in particular, was worth exploring.

Self-theories are compelling constructs because they account for both an individual student's beliefs and the social influences that motivate actions. They are the likely starting point in the causal chain that ultimately leads to students' decisions to seek help. Because of the central role self-theories play in student motivation, particularly students' motivation to seek help, they might offer additional insight into students' decisions to visit the writing center.

Survey of Mindsets and Sense of Belonging

Our exploratory study took place at Colorado College, a highly selective, small liberal arts college in the Mountain West, with

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a predominantly White and highly affluent student body. Colorado College has a block plan schedule in which students take one 4-credit course at a time for three and one-half weeks. Classes are very fast-paced, and students make heavy use of academic support services. More than 55% of students enrolled at the college interact with the writing center each year through tutorials and in-class workshops. Colorado College has particular concerns about the retention and success of minoritized, first-generation, and low-income students, who are at risk of underperforming relative to White, affluent students at the college, as measured by GPA.[2] Because of institutional demographics, the college makes a special effort to ensure that all students feel comfortable seeking help in the writing center, and the center engages in special outreach efforts with the Bridge Scholars program and all first-year seminars.

Methods

Sample and Measures

With a focus on first-year students, we combined institutional data on writing center visits with a brief student survey regarding students' transition to college. We were able to survey students at a key juncture nearly half-way through their first semester. The survey subsample included a little less than half of the incoming first-year class (n = 247; 21% underrepresented minority; 55% female). Survey questions included 6 items to assess self-theories, including three mindset items (Dweck, 2000, 2006; reliability by Cronbach's alpha, α = 0.79), and three sense of belonging items (adapted from Walton & Cohen, 2011; α = 0.80). Response options covered a 7-point scale from strongly disagree to strongly agree. (See the Appendix for survey items.)[3]

To assess patterns of help-seeking in the writing center, we looked at writing center usage statistics between two points during students' first year of college: (1) midway through the first semester (immediately after all students had completed the survey); and

(2) at the end of the spring semester of their first year. First, we used a dichotomous variable (1/0) to indicate whether a student had at least one writing center consultation between these two points. Second, we used a continuous variable to indicate the total of all writing center visits from administering the survey to the completion of the academic year in May. We did not include writing center visits during the first half of the first semester (i.e., up to the survey administration), since virtually all first-year experience courses had programmed contact with the writing center. Thus, we sought to test correlations between self-theories measured half-way through the first semester with subsequent help-seeking at the writing center during the remainder of the year.

Results

Writing Center Visits

To determine some basic characteristics of the first-year class, we examined the relationship between writing center use and two demographic factors: underrepresented/minoritized status (URM) and gender. Whether or not students visited the writing center at all was identical between URM students (22%; n = 100) and comparison students (22%; n = 363). Among those students who came to the writing center, URM students came somewhat less frequently (M = 4.3, se = ± 0.9, n = 22) than comparison students (M = 5.4, se = ± 0.5, n =80, t(100) = 0.95, = 0.34), but the difference was not statistically significant (effect size, Cohen's d = 0.23).[4]

Where gender was concerned, female-identifying students were significantly more likely to visit the writing center at least once (26%; n = 256) compared with male-identifying students (17%; n = 207, t(461) = 2.17, p = 0.03). Similarly, for those who came to the writing center, female-identifying students had more visits on average (M = 5.6, se = ± 0.6) than male-identifying students (M = 4.3, se = ± 0.6, t(100) = 1.248, p = 0.22). The difference, while notable (Cohen's d = .27), was not statistically significant.

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Writing Center and Mindset

A subsample of the first-year class took a survey with mindset and belonging items, which enabled us to explore the relationships between self-theories and help-seeking behaviors in using the writing center ($n = 247$; 21% underrepresented minority; 55% female). In particular, we sought to explore the extent to which mindset or sense of sense of belonging related to writing center visits or use between URM and comparison students.

Our first question focused on the extent to which visiting the writing center in the first place depends on mindset. Treating mindset as a scale, we noted a positive correlation for underrepresented students (URM) between a growth mindset and completing at least one writing center tutorial ($r = 0.28$, $p = 0.05$, $n = 51$). When clustered into 3 mindset categories (fixed, neutral, growth), a one-way, between groups analysis of variance (ANOVA) did not show a statistically significant difference between groups at the 5% level: $F_{(2,48)} = 1.504$, $p = 0.23$ (see Figure 2). An eta squared of 0.06 is a medium effect size among the groups (Figure 2). Given the literature focus on students' mindsets, a direct comparison of fixed and growth mindsets indicates that growth mindset was not significantly different from fixed mindset ($p = 0.20$). In contrast, we saw a very different pattern for comparison students

regarding whether or not they visited the writing center. Using the three mindset categories, a one-way, between groups ANOVA did show a notable difference between groups: $F_{(2,193)} = 3.396$, $p = 0.04$. In particular, the data shows the *opposite* trend—more likely to visit the writing center as a function of relatively fixed mindset (see Figure 2). An eta squared of 0.034 for these comparison students is more modest than the effect size of URM students. A direct comparison of fixed and growth mindsets indicates that fixed mindset mean was greater than the growth mindset, but not significantly at the 5% level ($p = 0.13$).

Second, for students who did come to the writing center, we explored the extent to which frequency of visits depended on mindset (see Figure 3). For URM students (URM), there did not appear to be any pattern (Figure 2), but the sample size was very limited ($n = 12$). We did note that the category with the most responses ($n = 7$) for growth mindset had the lowest average for writing center visits. Similarly, for comparison students, a one-way, between groups ANOVA showed a decreasing mean number of visits with increasing growth mindset, although the between group differences were not significant: $F_{(2,49)} = 1.29$, $p = 0.29$. An eta squared of 0.05 suggests a medium effect size between groups. A direct comparison of fixed and growth mindsets indicates that the fixed mindset mean was greater than the growth mindset, but not significantly so ($p = 0.36$).
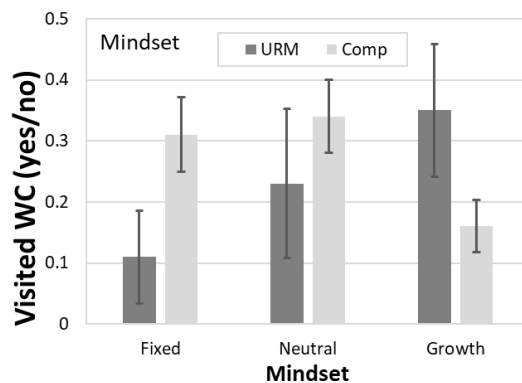

Figure 2. Graph of average mindset for whether or not students visited the writing center for three mindset categories, each separated by URM or comparison groups. For example, a value of 0.3 indicates that about 30% of the students in that group had at least 1 visit to the writing center. Error bars are one standard error.
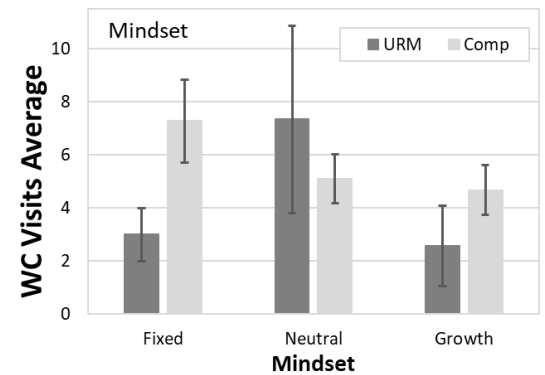

Figure 3. For students who did visit the writing center, graph of average number of visits during the year for three mindset categories, each separated by URM or comparison groups. Error bars are one standard error.

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Writing Center and Sense of Belonging

We did an analogous investigation for under-represented/ minoritized students (URM) and comparison students, assessing the extent to which visiting the writing center related to a student's sense of belonging. Again, we clustered students into three categories based on sense of belonging (no, neutral, yes), and first assessed whether or not they had at least one tutorial at the writing center (see Figure 4). For underrepresented/ minoritized students (URM), a one-way, between groups comparison did not show a difference for sense of belonging and going once to the writing center: $F_{(2,48)} = 0.14$, $p = 0.87$. Similarly, no differences were discernible between groups for comparison students: $F_{(2,193)} = 0.328$, $p = 0.72$. A direct comparison of students who felt that they belonged (yes) and those who felt that they did not (no) showed no difference between visiting the writing center, or not, for both URM and comparison students.

For URM and comparison students who did come to the writing center, we explored the extent to which the total number of visits depended on a sense of belonging (see Figure 5). URM students who felt that they belonged visited the most on average, but this group was only three students out of 12 total URM
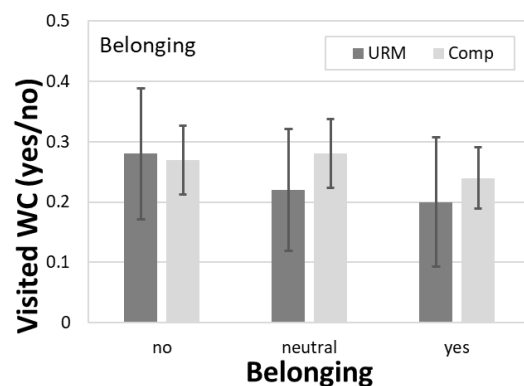
Figure 4. Graph of average sense of belonging for whether or not students visited the writing center for three belonging categories, each separated by URM or comparison groups. For example, a value of 0.2 indicates that about 20% of the students in that group had at least 1 visit to the writing center. Error bars are one standard error.
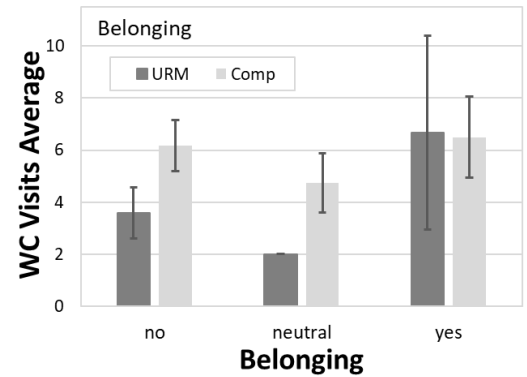
Figure 5. For students who did visit the writing center, graph of average number of visits during the year for three belonging categories, each separated by URM or comparison groups. Error bars are one standard error.

students. Similarly, comparison students displayed no difference in average number of visits depending on sense of belonging. Overall, the belonging data showed less discernible systematics compared with the mindset data.

Discussion

We set out to investigate what motivates students to seek help in the writing center. Our exploratory study tested relationships between two motivational constructs—students' mindsets and their sense of belonging—and students' writing center visits. Mindsets and sense of belonging were interesting to study within the context of writing centers because they represent beliefs about the self that are associated directly and indirectly with help-seeking behavior (Karabenick & Dembo, 2011; Karabenick & Newman, 2013; Pintrich, 1999; Yeager et al., 2016), and with positive academic outcomes (Blackwell et al., 2007; Yeager et al., 2016). Previous research led us to believe we might find that a growth mindset correlates for all students with visits to the writing center (Dweck, 2006; Dweck & Master, 2008; Magnusson & Perry, 1992; Williams & Takaku, 2011) and specifically for URM students (Aronson et al., 2002; Broda et al., 2018; Yeager et al., 2016). Previous research also suggested that we might find a relationship between sense of belonging and writing center visits for URM

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students. (Walton & Cohn, 2007, 2011; Yeager et al., 2016).

Our results were both interesting and somewhat unexpected. Although we found that URM students with a growth mindset were more likely to visit the writing center once, we did not find a relationship between URM students' mindsets and the frequency of visits. In contrast to previous findings on mindsets and help-seeking, we found that comparison students with a fixed mindset were actually more likely to visit the writing center than comparison students with a growth mindset and to do so more frequently. We found no relationship between students' sense of belonging and writing center visits, though our sample size for URM students was small. Because of the exploratory nature of our study and our unexpected results, we discuss the significance of our findings with an eye toward an agenda for future research.

Writing Center Visits

Where overall patterns of writing center usage are concerned, we found that historically underrepresented/ minoritized (URM) students in our sample were as likely to visit the writing center as comparison students. Our findings differed from Salem's study (2016), which found that non-White students were significantly more likely than White students to visit the writing center, and even more so when they had low S.A.T. scores (Salem, 2016). Salem's results led her to conclude that students' decisions to visit the writing center are influenced by factors that are established before they enter college, such as race, class, gender-identity, or linguistic hierarchy (Salem, 2016). Our study does not support an argument that identity is a consistent predictor of writing center use. While it may be true that students with less privileged identities are primed for particular experiences in college, our results suggest that the salience of identities might be contingent on other factors, including for URM students, beliefs about the malleability of intelligence.

While our results suggest that URM students' mindsets are related to their writing center visits, we must acknowledge that other factors could explain differences in writing center usage patterns between our findings and Salem's. For example, Temple University and Colorado College are very different institutions relative to school size and selectivity, student demographics, and likely the campus climate for minoritized students. The curriculum and programs at both schools might also play a role in students' help-seeking. For example, the required first-year experience courses at Colorado College encourage students to use the writing center. Such programs influence the culture of help-seeking on campus for all students and might lead to similar patterns of use across all demographics. Future studies might have a multi-institutional focus and control for factors related to students' academic profiles, institutional contexts, and support programs.

In our study, we found that female-identifying students were more likely to visit the writing center and to visit more frequently than male-identifying students. Our results were consistent with findings in other studies of writing centers and learning assistance centers related to gender and usage (Salem, 2016; Winograd & Rust, 2014) and with the literature on gender and academic help-seeking (Brown et al., 2021; Marrs et al., 2012). Because our results related to gender were consistent with previous findings, they give us some confidence in our results overall, specifically in our ability to identify trends involving students' mindsets and sense of belonging.

Mindsets

Some studies on mindsets and help-seeking have found that growth mindset correlates with help-seeking regardless of students' identities (Karabenick and Dembo, 2011; Karabenick & Newman, 2013; Pintrich, 1999; Yeager et al., 2016), while others indicate that mindsets are significant only for URM students (Aaronson et al., 2002; Broda et al., 2018; Yeager et al., 2016). Our study found that mindsets were associated with help-seeking in the writing center only for URM students and only for their first visits. Our results suggest that while URM students' mindsets might be instrumental in their willingness to seek help in

the writing center initially, other factors might be more important in determining subsequent use. For example, after an initial visit to the writing center, students' decisions about whether to return for additional appointments might depend more on their experiences in the writing center than on their mindsets. It is also possible that students' experiences in the writing center have an effect on their mindsets and, consequently, on their interest in seeking future writing center support. Although students' mindsets are relatively stable (Yeager & Walton, 2011), Miller (2020) has shown that tutors can support students in developing a growth mindset in their approach to writing. Perhaps, experiences at the writing center can also promote a fixed mindset. A possible limitation of our study was that we only had an initial measure for students' mindsets, and we did not account for the chance that students' mindsets might change after their visits to the writing center or as a result of their experiences during the academic year.

We also did not control for the number of writing assignments students completed over the course of the study or the complexity of assignments. The number of writing assignments can vary significantly for Colorado College students after their first eight weeks. More complex or heavily weighted assignments might also encourage more visits than lower stakes, lower challenge assignments. Future studies might measure students' mindsets prior to each visit and seek to determine any effects that visiting the writing center might have on students' mindsets, apart from any intentional intervention. Studies might also account for the number and complexity of writing tasks that students are assigned when they consider the frequency of students' visits.

Comparison students in our study who have fixed mindsets were significantly more likely to visit the writing center and to visit more frequently—a trend that contrasted with our findings for the URM students in our sample and departed from the literature on mindsets and help-seeking. These results were unexpected given previous research that links fixed mindsets generally with the avoidance of help (Dweck & Grant, 2008; Yeager & Walton, 2011). While our findings related to

mindsets and help-seeking are noteworthy, our study lacks some information that would enable us to have confidence in our interpretations of these results. Previous studies, for example, have found that students with low aptitude or ability, as measured by S.A.T verbal scores (Salem, 2016; Williams & Takaku, 2011), college-wide reading assessments, and grades in writing courses (Williams & Takaku, 2011) were more likely to visit the writing center. Because we did not control for academic ability or prior academic performance measures, we are missing points of comparison and possible explanations for the trends we observed.

While we found that comparison students with fixed mindsets were more likely to visit the writing center and to visit more frequently, we lacked context about the reasons for students' visits and the nature of help they were seeking. Research indicates that not all forms of help-seeking correlate with academic achievement (Karabenick & Dembo, 2011; Karabenick & Newman, 2013; Nelson-Le Gall, 1985). Help-seeking is generally categorized broadly as either being "instrumental" or "executive." Students who are engaging in instrumental help-seeking ask for help in order to learn independently, not just to find the right answer (Magnusson & Perry, 1992; Nelson-Le Gall, 1985). In contrast, students who are engaging in executive help-seeking attempt to minimize their effort and find others who will complete work for them (Magnusson & Perry, 1992; Nelson-Le Gall, 1985). Only instrumental help-seeking correlates with academic achievement. Information about the kind of help that students were seeking might have assisted us in interpreting our unexpected findings. Further, because we want the students who visit the writing center to learn from their experiences, we would benefit from understanding if students' motivations relate to their goals in seeking help, as well as any possible effects their goals might have on their writing performance. Future studies might account for students' abilities and seek to explore possible relationships between students' mindsets, the nature of help they are seeking in the writing center, and their academic outcomes.

Our study also did not account for students' beliefs about writing specifically.

The questions we used were selected from Dweck's previously validated mindset scale, which focuses generally on beliefs about intelligence rather than specific beliefs about writing. Recent research suggests that mindsets might be more complex and variable across different domains (Limpo & Alves, 2014, 2017; Powell & Driscoll, 2020). In other words, a student might have a growth mindset generally, but have a fixed mindset related to specific academic abilities, like their aptitude for writing. Drawing from scales designed with writing in mind (e.g., Limpo and Alves, 2014) might result in measures that are more aligned with mindsets and give us better resolution to test whether mindsets have an effect on writing center visits.

Our results indicated that comparison students with growth mindsets were not as likely to visit the writing center as comparison students with fixed mindsets, but we could not discern if any students were seeking writing support outside of the writing center. Students on any campus have a number of resources, including professors, mentors, and friends. Particularly in their first year, they might also be accessing support off campus in the form of professional coaches, tutors, or parents. Minoritized students on our predominantly White campus might believe they have fewer options for support outside of the writing center than our comparison students, at least initially as first-year students, and they might be more reluctant to seek out support from professors and peers. In fact, previous research has found that URM students' support networks are smaller than comparison students' networks (Zusho et al., 2007). While our study only accounted for students' seeking help from the writing center, future studies might inquire about all the ways that students might seek support on their writing.

Sense of Belonging

Unlike previous studies which found correlations between students' sense of belonging and their use of general academic support services (Yeager et al., 2016), we did not find a significant relationship between students' sense of belonging and their visits to the writing center. We did note a trend between URM students' sense of belonging and their frequency of visits, but our sample size was small. However, because this trend is consistent with research that links sense of belonging for URM students with the use of academic support services (Yeager et al., 2016), we believe that the relationship between sense of belonging and frequency of visits to the writing center merits further investigation. As with our mindset survey, a possible limitation of our instrument was that it did not account for the ways that students' sense of belonging might vary by context. For example, students might feel less of a sense of belonging at an institution than they do in their major, a particular course (Wilson et al., 2015), or a lab setting where they are part of a research team (Thoman et al., 2017). Future studies might seek a more refined measure of belonging specific to the writing center.

In general, our results might have benefitted from incorporating additional qualitative items to help us understand relationships between students' mindsets and sense of belonging and their writing center use. For example, including several open-ended questions could have enabled students to provide the additional context that we were missing to deepen our understanding of the kinds of help students were seeking. Alternatively, discussions with focus groups might have allowed us to ask follow-up questions and probe students' reasoning, motivations, and decision-making processes about whether to visit initially or to return to the writing center. This additional information could have helped us articulate how students' goals in seeking help and their experiences in the writing center relate to their future use of writing center services.

Implications

Writing centers have always said that we focus on developing students as writers. The literature on help-seeking explains why our attention to the writer's development and not just their papers is so important—a student's desire to learn, rather than to achieve, is associated with self-regulatory strategy use and better academic performance. Williams and

Takaku (2011) take this belief a step further when they posit that students' dispositions toward help-seeking might enable them to learn and grow from their experiences in the writing center even more than the help they receive. Their conclusions resonate with studies that show that mindset interventions are more effective than instruction in study skills for increasing students' academic effort (Sriram, 2014) and for improving academic outcomes (Miller, 2020).

While the results of our exploratory study were mixed, they offer evidence to support future research on the motivational constructs of mindsets and sense of belonging in the context of writing center work. Such constructs emerge at the intersection between students' personal beliefs and their social environment and might be at the core of students' help-seeking behaviors, particularly for minoritized students. Self-theories are especially compelling constructs to investigate because, unlike aspects of students' social identities, which are relatively stable, students' self-theories can change (Broda et al., 2018; Yeager & Walton, 2011; Yeager et al., 2016). With appropriate interventions, students can be encouraged to internalize other beliefs about themselves, the nature of their intelligence, and their belonging in a community, and these beliefs might have an effect on some students' help-seeking behaviors.

Although our study was exploratory, we believe it has potential implications for the way that we market writing center services. If some students' self-theories are associated with their willingness to seek help from the writing center, then our outreach efforts might focus on shifting these self- theories. Most writing center marketing campaigns are aimed at promoting students' awareness of the writing center and communicating the benefits of working with writing consultants, but these messages may not be as effective in motivating students to seek help as campaigns that address students' fundamental beliefs (Ciscell et al., 2016). Our research supports a marketing strategy that includes broad-scale social norming focused on students' mindsets and possibly their social belonging (Ciscell et al., 2016). Multiple studies have demonstrated

how such interventions can normalize the experience of academic struggle and motivate students to seek help (Dweck, 2006; Miller, 2020; Walton & Cohen, 2011; Yeager, 2016; Yeager & Walton, 2011). Such interventions could easily be integrated into first-year orientations, writing courses across the curriculum, and writing center consultations.

Our study also supports an agenda for tutor training that addresses mindsets. If URM students with a growth mindset are more likely to visit the writing center, then we might want to consider how we can foster a growth mindset in the context of writing consultations so that students are more likely to return. We also might want to be aware of how students' motivations to visit the writing center can affect their learning. In our study, comparison students with a fixed mindset were more likely to visit the writing center and to do so more frequently than students with a growth mindset. We know, however, that students with fixed mindsets are less likely to make effective use of constructive feedback and improve their writing performance (Limpo & Alves, 2017; Powell & Driscoll, 2020). As Miller's (2020) research has shown, tutors can be trained to draw upon research on mindsets in their work with students, and such interventions can affect students' motivations, strategy use, and the quality of their writing. We might need to help writing tutors identify students' who have a fixed mindset for writing and to develop strategies to promote growth-oriented beliefs.

While we did not find a significant relationship between students' sense of belonging and writing center visits, we still might want to consider how we can promote belonging in the writing center, particularly if we want to encourage URM students to return after an initial consultation. Though additional research is necessary to test the possible relationship between sense of belonging and writing center use, our findings might be sufficient to recommend that tutors learn about the role sense of belonging plays for URM students in help-seeking generally. Tutors might be encouraged to communicate specific messages about the nature of academic struggle or to discuss their own writing challenges to cultivate students'

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sense of belonging (Yeager & Walton, 2011). Such messages are unlikely to harm students and might be instrumental in supporting their motivation to return for subsequent visits.

In order for writing centers to support students on our campuses, our students must first walk through our doors. We have long perpetuated the belief that the students who visit the writing center are motivated to become better writers, or at very least, they are motivated to produce better papers that will earn higher grades. This study suggests that some students' motivations might be more complex and related to their beliefs about the nature of intelligence and possibly their sense of belonging as well. Writing Centers would benefit from considering more deeply the motivational factors that affect students' willingness to seek help and to benefit from the support we provide.

Notes

1. In her article, Salem claims that "our ability to shape what other people believe is fundamentally limited (2016, p. 153), but a significant body of research on educational interventions shows that we can actually change students' beliefs at scale through short exercises. (See Yeager & Walton [2011], "Social-Psychological Interventions in Education: They're not Magic.")

2. When we reference students of color, we mean Black, Hispanic, and Indigenous students. We have excluded students of Asian descent from our sample, since Asian students at the college did not underperform academically as compared with our White students.

3. This project received an educational exemption from IRB based on section 45 CFR 46.101b1.

4. For a given measure, the *p*-value can be thought of as the probability that a statistical summary of the data (e.g., the difference in means between two groups) would be equal to or greater than the observed value (Wasserstein & Lazar, 2016). Typically, *p*-values equal to or less than 0.05, or 5%, are viewed as being statistically significant. However, it is possible that two means could be slightly different while the *p*-value is still less than 0.05. In this case, because the means are so similar, there may be no practical differences between them. Thus, researchers also use effect size to indicate the practical difference between values in a sample, and we use 2 effect size statistics in this paper. We use Cohen's *d* as an indicator of the difference between two means relative to the variation around the means of two samples. For comparisons among 3 groups or categories, we use the effect size statistic eta-squared. In order to assess the difference between two or three categories, either effect size statistic and its "practical" value can be characterized (regardless of *p*-value) as a "small," "medium," or "large" effect.

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Appendix: Survey Questions

Please indicate the degree to which you agree or disagree with these statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Sometimes I feel like I belong at X INSTITUTION, and sometimes I feel like I don't belong at XX. (2)							
No matter how much intelligence you have, you can always change it quite a bit. (7)							
I feel like I belong at X INSTITUTION, no matter how a particular day went. (9)							
You can learn new things, but you can't really change your basic intelligence. (10)							
When something bad happens, I feel like maybe I don't belong at X INSTITUTION. (11)							
Your intelligence is something you can't change very much. (12)							