NCCSD Research Brief

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Krista M. Soria

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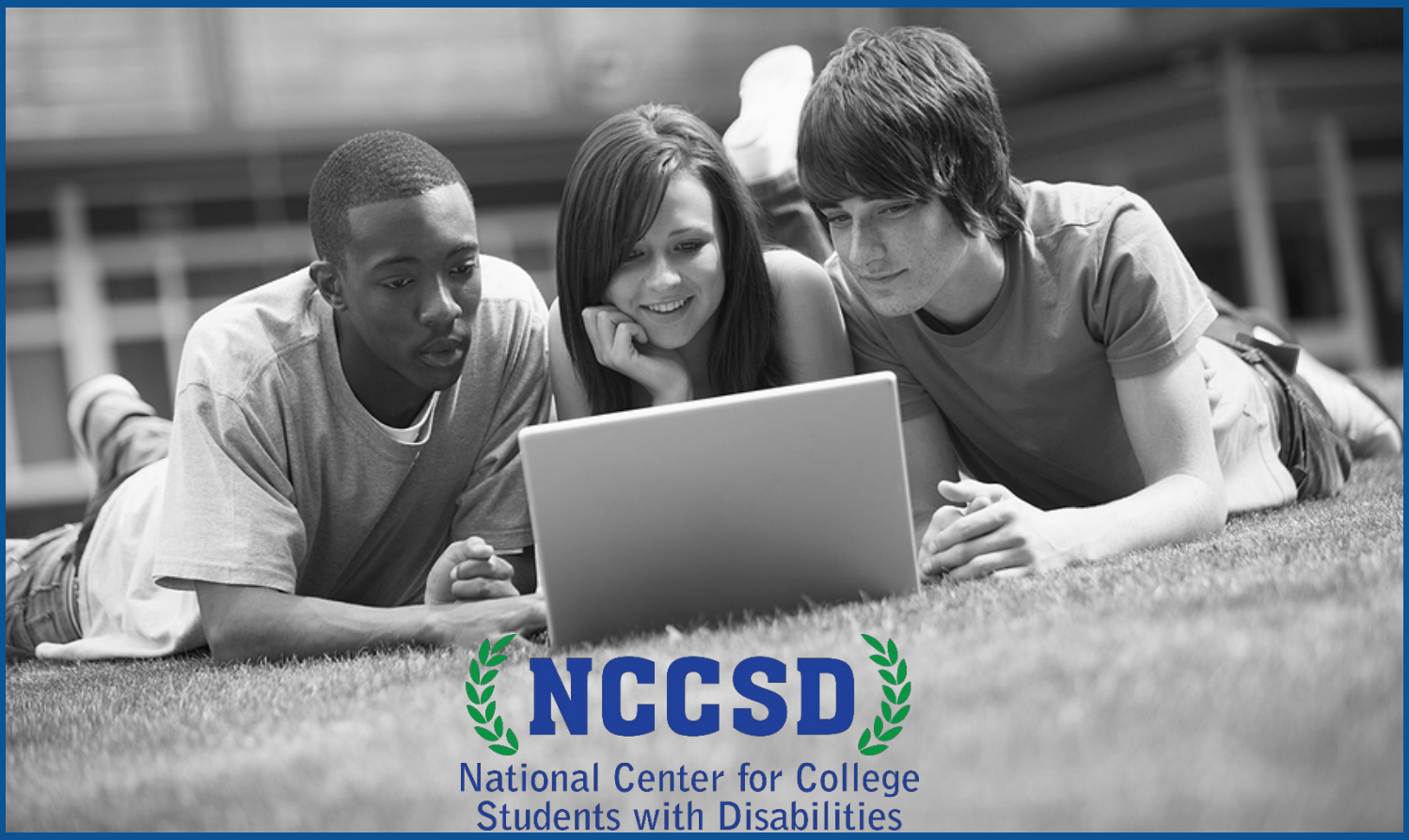

National Center for College Students with Disabilities

Research Brief

Supporting Undergraduate Students with Disabilities: A Focus on Campus Climate and Sense of Belonging

By Krista M. Soria

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NCCSD research briefs provide information relevant to researchers and policymakers, on topics pertaining to college students with disabilities in the United States.

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Abstract

The purpose of this research brief was to explore whether there are disparities in sense of belonging, indirect perceptions of campus climate, and direct perceptions of campus climate between undergraduate students with and without disabilities or conditions. Using data from the 2018 Multi-institutional Study of Leadership (MSL) survey, the results suggest that students with any type of disability or condition had a significantly ($p < .001$) lower sense of belonging and significantly ($p < .001$) more encounters with discrimination on their campuses compared to students without disabilities or conditions.

While students with disabilities or conditions experienced a significantly lower sense of belonging and more direct negative experiences with campus climate, there were mixed results with indirect perceptions of campus climate (i.e., general perceptions of a hostile or discriminatory climate). The students with the lowest sense of belonging were those with psychiatric or psychological conditions, neurological disabilities or conditions, and speech and language conditions. Students who encountered the most discrimination included those with speech or language conditions, neurological disabilities or conditions, and learning disabilities.

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Introduction

Undergraduate college students with disabilities have lower graduation rates compared to their peers without disabilities. For instance, only 40.4% of students with disabilities who started attending four-year public or private non-profit colleges in 2011 graduated with a bachelor's degree from the same institution in 2017 compared to 56.7% of students without disabilities (National Center for Education Statistics, 2017). Although there is slightly more parity in the graduation rates at two-year colleges, only 15.5% of students with disabilities who started at a two-year college in 2011 graduated with an associate's degree by 2017 compared to 22.6% of students without disabilities.

Some scholars have examined the role that campus climate and sense of belonging may play in supporting the educational outcomes of college students with disabilities (Evans et al., 2017; Fleming et al., 2017; Harbour & Greenberg, 2017). One consistent theme uncovered by researchers is that administrators, staff, and faculty at colleges and universities often overlook disability as part of diversity and campus climate efforts (Harbour & Greenberg, 2017). Left unexamined, the ableist culture of higher education may be inhospitable, discriminatory, and unwelcoming for college students with disabilities, leading to higher rates of attrition.

Indeed, the existing research points to the many challenges that students with disabilities encounter in higher education. For instance, using a large national dataset, Aquino et al. (2017) discovered that college students with disabilities had a lower sense of belonging and were less likely to believe their institutions had a commitment to diversity compared to students without disabilities. Furthermore, students with disabilities were more likely to experience or witness discrimination or other forms of harassment (Aquino et al., 2017). Similarly, Zehner (2018) used a large national dataset and discovered that students with disabilities had a lower sense of belonging and felt less valued on their campuses; were less likely to believe that their campuses were welcoming, safe, and secure; were less satisfied with their academic and social experiences; and were less likely to agree that faculty were respectful.

While scholars have demonstrated some of the challenges experienced by students with disabilities in higher education, previous studies have been limited in a few important ways. For one, although the data sets analyzed by scholars have featured large samples from multi-institutional contexts, some of the data are limited in terms of the ability to analyze data among students with different types of disabilities. For instance, Zehner (2018) analyzed the differences between students with physical, learning, or psychological disabilities while Aquino et al. (2017) analyzed differences between students with physical, learning, psychological, or attention-deficit/hyperactivity disorder. Institutional context also matters: Zehner analyzed data from large public research universities while Aquino et al. did not provide institutional information in their study, thus making it difficult to generalize the results to other institutions.

Given the limitations of previous studies, the purpose of this research brief is to offer an expanded view of campus climate and sense of belonging among college students with disabilities at 71 different colleges and universities. Additionally, the differences in students' sense of belonging and perceptions of campus climate are explored using a more expanded list of disability types: deaf or hard of hearing, blind or visual impairment, speech or language condition, learning disability, physical or musculoskeletal disability, Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder, psychiatric or psychological condition, neurological condition, and medical condition or disability.

Methodology

Instrument

I utilized data collected as part of the Multi-Institutional Study of Leadership (MSL), a survey that was administered at 71 four-year colleges and universities in spring 2018. The MSL is an international research program that examines the influence of higher education experiences on undergraduates' development. More information about the survey is located at www.leadershipstudy.net.

Sample

There were approximately 54,000 students who responded to the survey items used in the present analysis. Slightly over half of the participants were enrolled in public institutions (53.8%), 51.8% were enrolled at doctoral universities, 38.8% at master's colleges and universities, and 9.5% at bachelor's degree granting colleges. Additionally, 43.7% were from at institutions with less than 10,000 students enrolled while 56.3% were from larger institutions with over 10,000 students enrolled. Furthermore, the majority of students in the sample were enrolled at institutions in small, midsize, or large cities (62.8%) compared to rural towns or suburbs (37.2%).

In the survey, students answered a question, "Do you have a long-lasting condition (physical, visual, auditory, mental, emotional, or other) that substantially limits one or more of your major life activities (your ability to see, hear, or speak; to learn, remember, or concentrate)?" If students selected "yes," they then responded to the prompt "please indicate the condition(s) you have" and selected any of ten available options. In the sample, 14.5% of students indicated they had at least one disability or condition and 85.5% did not have any disabilities (Table 1).

Students could select more than one disability or condition and there were 3,022 students who selected more than one disability or condition (5.6% of the total sample). The most commonly-reported category was a psychiatric or psychological condition (7.8%), followed by Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder (4.1%), blind or visual impairment (2.1%), and medical conditions (e.g., diabetes, severe asthma) at 2.0%.

Table 1

Sample Demographic Information by Disability or Condition

	n	%
Students with at least one disability or condition	7,880	14.5
Students with no disabilities or conditions	46,380	85.5
Psychiatric or psychological condition (e.g., anxiety disorder, major depression)	4,251	7.8
Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder	2,250	4.1
Blind or visual impairment	1,116	2.1
Medical conditions (e.g., diabetes, severe asthma)	1,115	2.0
Learning disability	1,083	2.0
Physical or musculoskeletal (e.g., multiple sclerosis)	471	0.9
Neurological condition (e.g., brain injury, stroke)	496	0.9
Deaf or hard of hearing	389	0.7
Speech or language condition	172	0.3

Measures

In the MSL survey, students responded to three items that measured their sense of belonging (e.g., I feel accepted as a part of the campus community), four items measuring their direct perception of campus climate (e.g., faculty have discriminated against people like me), and two items measuring their indirect perception of campus climate (e.g., I would describe the environment on campus as negative/hostile). The sense of belonging items were scaled 1 = strongly disagree to 5 = strongly agree and the campus climate items were scaled 1 = strongly agree to 5 = strongly disagree.

Data Analysis

I began by conducting a factor analysis on the nine survey items to reveal latent variables that explain the correlations between the variables (or dimensions). I utilized the minimum average partial (Velicer, 1976), parallel analysis (Velicer et al., 2000), and optimal coordinate methods to estimate the factors (Raiche et al., 2006). I used the procedures outlined by Courtney (2013) to analyze the data using SPSS R-Menu v2.0 (Basto & Pereira, 2012). All methods estimated that three factors should be retained. The factorial model had good fit (GFI = .977, RMSR = .072), so I retained three factors: sense of belonging (α = .875), direct perceptions of campus climate (α = .874), and indirect perceptions of campus climate (α = .748).

I computed the factor scores using the regression method and standardized the scores with a mean of zero and a standard deviation of one. A higher score for sense of belonging means that students feel more welcomed and accepted on campus. However, a lower score for indirect campus climate indicates that students were more likely to believe their campuses were unwelcoming, prejudicial, or hostile and a lower score for direct campus climate means that students were more likely to agree that they directly encountered discrimination or that students, staff, or faculty have discriminated against people like them on their campuses.

Next, I analyzed the data in three waves: first, I examined significant differences between students who had any disabilities or conditions compared to students without any disabilities or conditions. Next, I analyzed the differences between students based upon their individually-reported disability or condition and students who did not any disability or condition.

I utilized *t*-tests to examine whether there is are statistically significant differences in students' sense of belonging and campus climate based upon their disability or condition. I utilized the probability level of $p < .001$, which serves as an a priori statement of the probability of an event occurring as extreme or more extreme than the one observed if the null hypothesis is true. I used a more conservative alpha value to account for the large sample size because it is easy to achieve significance with larger samples. I also used Cohen's *d* as a measure of effect size to examine the magnitude of the size of the differences in the groups of students.

Results

The results of the first analysis suggest that students with disabilities or conditions had a significantly ($p < .001$) lower sense of belonging than students without disabilities or conditions (Table 2). Additionally, students with disabilities or conditions were significantly ($p < .001$) more likely than their peers without disabilities or conditions to experience negative indirect experiences related to campus climate (e.g., more likely to agree that there is a general atmosphere of prejudice among students). Finally, students with disabilities or conditions were significantly ($p < .001$) more likely than their peers without disabilities or conditions to experience negative direct experiences related to campus climate (e.g., more likely to agree that other students, staff, or faculty have discriminated against people like them).

The results also suggest the difference between students with disabilities/conditions and students without disabilities/conditions was the smallest for students' indirect perceptions of climate (*d* = .117). While the differences were larger for both sense of belonging (*d* = .270) and direct perceptions of campus climate (*d* = .269), the differences are small in magnitude.

Table 2

Differences between Students with Disabilities and Students without Disabilities

	Students With Disabilities or Conditions M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.230 (1.118)	.039 (.973)	22.038***	(.245, .292)	.270
Indirect perceptions of campus climate	-.100 (1.029)	.017 (.994)	9.592***	(.093, .141)	.117
Direct perceptions of campus climate	-.229 (1.061)	.039 (.984)	22.008***	(.244, .292)	.269

Note. *** = $p < .001$

The results of the second analysis suggest that students with any type of disability or condition had a significantly ($p < .001$) lower sense of belonging than students without a disability or condition (Table 3). Across any type of disability or condition (e.g., psychiatric or psychological conditions, blind or visual impairments), students who experience a disability or condition were less likely to feel welcomed, accepted, and like they belonged on their campuses. The differences were largest between students with psychiatric/psychological conditions and students without any conditions/disabilities (*d* = .387) and between students with neurological disabilities or conditions and students without any conditions/disabilities (*d* = .346).

The results are decidedly more mixed when comparing the indirect perceptions of campus climate among students with and without disabilities or conditions (Table 3). Students who have psychiatric/psychological conditions, medical conditions, learning disabilities, neurological disabilities or conditions, and speech/language conditions were more likely than their peers without disabilities to believe their campuses were unwelcoming, prejudicial, or hostile. The differences in indirect campus climate were largest among students with a speech or language condition and students without any conditions/disabilities (*d* = .254) followed by students with neurological disabilities or conditions and students without any conditions/disabilities (*d* = .235).

There were no significant differences (at the $p < .001$ level) in indirect experiences with campus climate between students without conditions/disabilities and students with Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder; students who are blind/have visual impairments; students with physical disabilities; and students who are deaf/hard of hearing.

Finally, students with any disability or condition had a significantly ($p < .001$) lower direct perception of campus climate than students without a disability or condition (Table 3). Across any type of disability or condition, students who experience a disability or condition were more likely than students without disabilities/conditions to indicate that they have personally encountered discrimination on their campuses. The results indicate the differences were largest among students with and without speech/language conditions and students with/without neurological disabilities or conditions (*d* = .458 and *d* = .437, respectively).

Table 3

Differences between Students with Disabilities and Students without Disabilities, by Type of Disability or Condition

	Students With Psychiatric or Psychological Conditions M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.343 (1.143)	.039 (.973)	24.026***	(.351, .414)	.387
Indirect perceptions of campus climate	-.094 (1.007)	.017 (.994)	6.953***	(.080, .143)	.112
Direct perceptions of campus climate	-.270 (1.052)	.039 (.984)	19.427***	(.278, .340)	.312
	Students With Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.166 (1.093)	.039 (.973)	9.629***	(.163, .246)	.209
Indirect perceptions of campus climate	-.027 (.993)	.017 (.994)	2.022	(.001, .086)	.044
Direct perceptions of campus climate	-.181 (1.044)	.039 (.984)	10.285***	(.178, .262)	.223
	Students Who Are Blind or Have Visual Impairments M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.158 (1.069)	.039 (.973)	6.609***	(.139, .255)	.202
Indirect perceptions of campus climate	-.042 (1.008)	.017 (.994)	1.962	(.001, .119)	.060
Direct perceptions of campus climate	-.129 (1.016)	.039 (.984)	5.617***	(.109, .227)	.132
	Students With a Medical Condition M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.214 (1.161)	.039 (.973)	8.502***	(.195, .311)	.258
Indirect perceptions of campus climate	-.136 (1.059)	.017 (.994)	5.076***	(.094, .213)	.154
Direct perceptions of campus climate	-.328 (1.116)	.039 (.984)	12.208***	(.308, .425)	.371

	Students With a Learning Disability M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.219 (1.164)	.039 (.973)	8.539***	(.199, .317)	.264
Indirect perceptions of campus climate	-.188 (1.043)	.017 (.994)	6.663***	(.145, .265)	.206
Direct perceptions of campus climate	-.352 (1.131)	.039 (.984)	12.791***	(.331, .451)	.396
	Students With a Physical Disability or Condition M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.173 (1.114)	.039 (.973)	4.669***	(.123, .301)	.217
Indirect perceptions of campus climate	-.063 (1.096)	.017 (.994)	1.737	(-.010, .170)	.080
Direct perceptions of campus climate	-.308 (1.082)	.039 (.984)	7.853***	(.257, .437)	.352
	Students With a Neurological Disability or Condition M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.298 (1.230)	.039 (.973)	7.594***	(.250, .424)	.346
Indirect perceptions of campus climate	-.217 (1.130)	.017 (.994)	5.200***	(.146, .322)	.235
Direct perceptions of campus climate	-.392 (1.137)	.039 (.984)	9.662***	(.344, .519)	.437
	Students Who Are Deaf or Hard of Hearing M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.152 (1.138)	.039 (.973)	3.852***	(.094, .289)	.196
Indirect perceptions of campus climate	-.057 (1.030)	.017 (.994)	1.464	(-.025, .174)	.075
Direct perceptions of campus climate	-.183 (1.094)	.039 (.984)	4.399***	(.123, .320)	.225
	Students With a Speech or Language Condition M (SD)	*Students Without Disabilities or Conditions M (SD)*	*t*	*95% CI for Mean Difference*	*d*
Sense of belonging	-.267 (1.178)	.039 (.973)	4.097***	(.159, .452)	.314
Indirect perceptions of campus climate	-.236 (1.078)	.017 (.994)	3.286***	(.102, .403)	.254
Direct perceptions of campus climate	-.412 (1.234)	.039 (.984)	5.976***	(.303, .599)	.458

Note. *** = $p < .001$

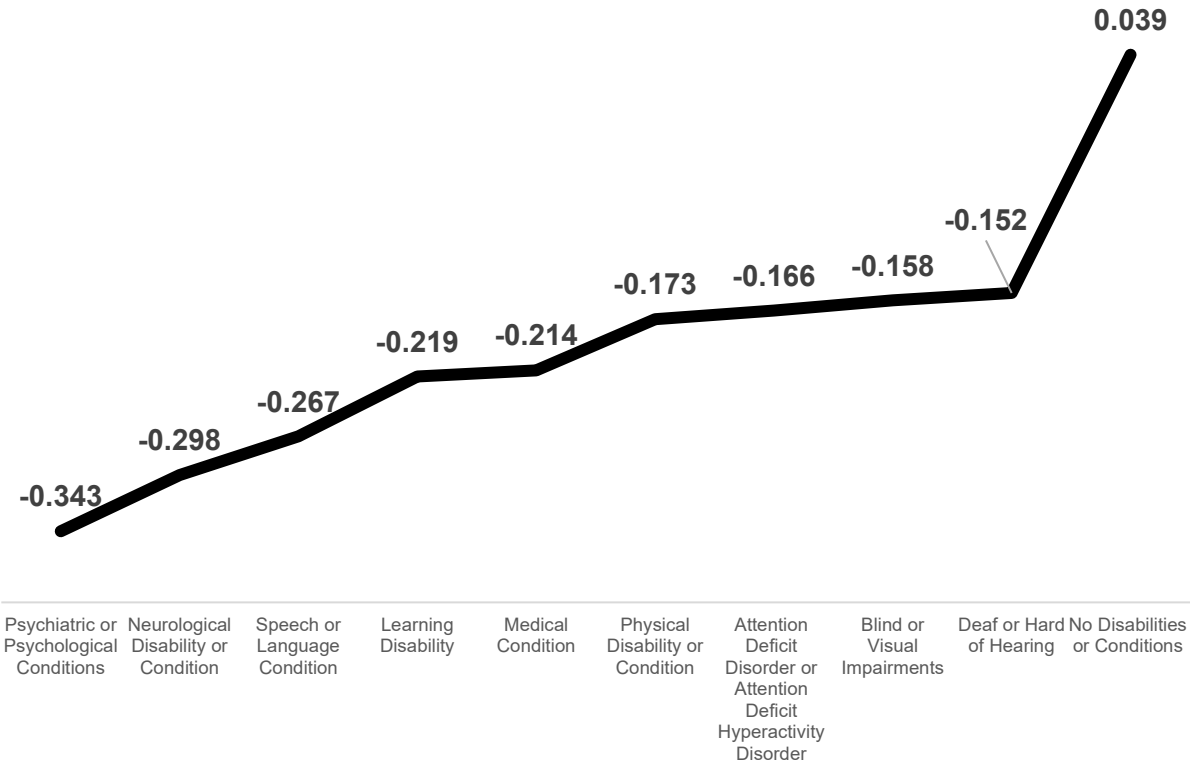
Discussion

The results suggest that students with any type of disability or condition were much less likely to feel welcomed and accepted on their college campuses compared to college students without disabilities or conditions. While the magnitude of the differences are small (as measured by Cohen's *d*), they are consistent across all students with any type of disability or condition when compared to their peers without disabilities or conditions.

According to Figure 1, the students who have by far the lowest sense of belonging are students with psychiatric or psychological conditions, followed by students with neurological disabilities or conditions and students with speech and language conditions.

Figure 1

Students' Sense of Belonging by Type of Disability or Condition

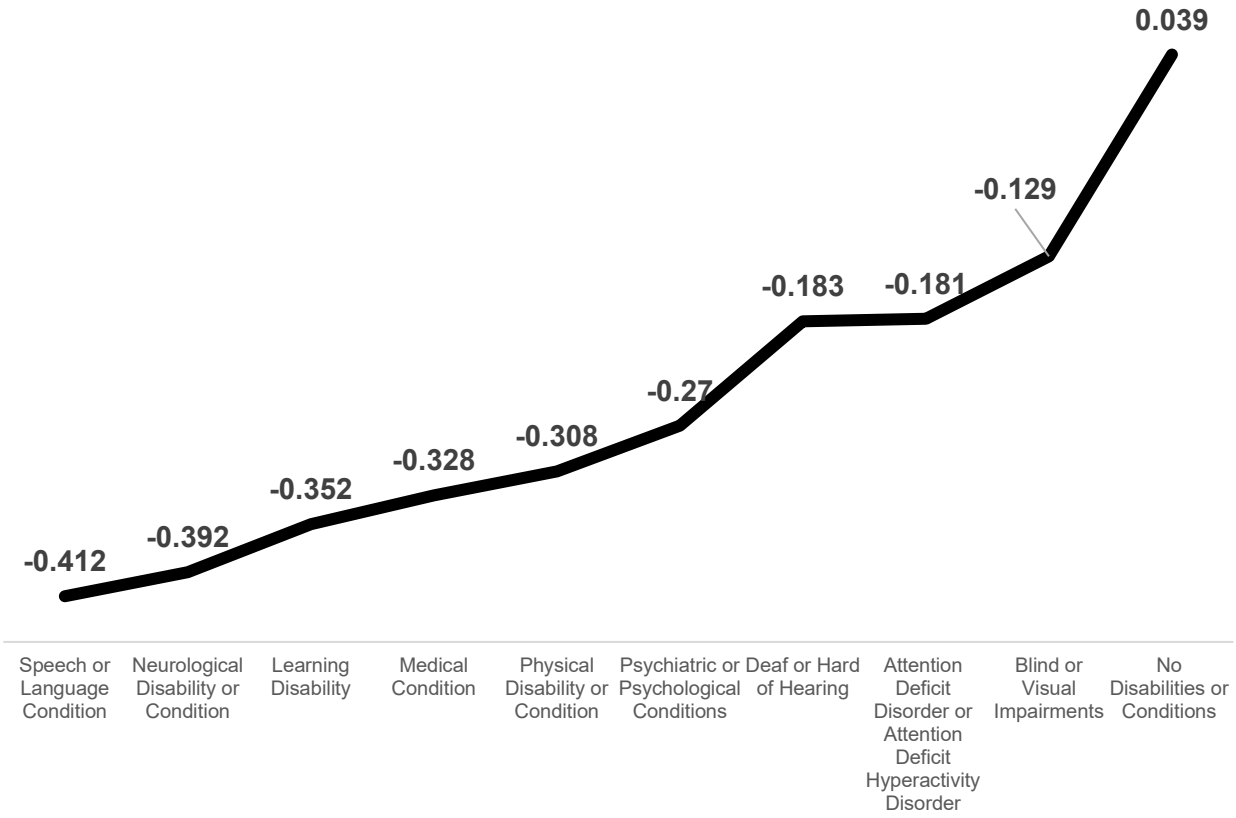


Furthermore, students with any type of disability or condition were more likely than their peers without disabilities or conditions to have encountered direct discrimination or believe that staff, students, and faculty have discriminated people like them on their campuses. While the size of the differences are mostly small (as measured by Cohen's *d*), some are edging closer to medium in terms of the magnitude of the differences (e.g., between students with speech/language conditions and students without disabilities or conditions).

According to Figure 2, the students who have experienced the most negative direct campus climate are students with speech and language conditions followed by students with neurological disabilities or conditions and students with learning disabilities.

Figure 2

Students' Experiences with Direct Campus Climate by Type of Disability or Condition

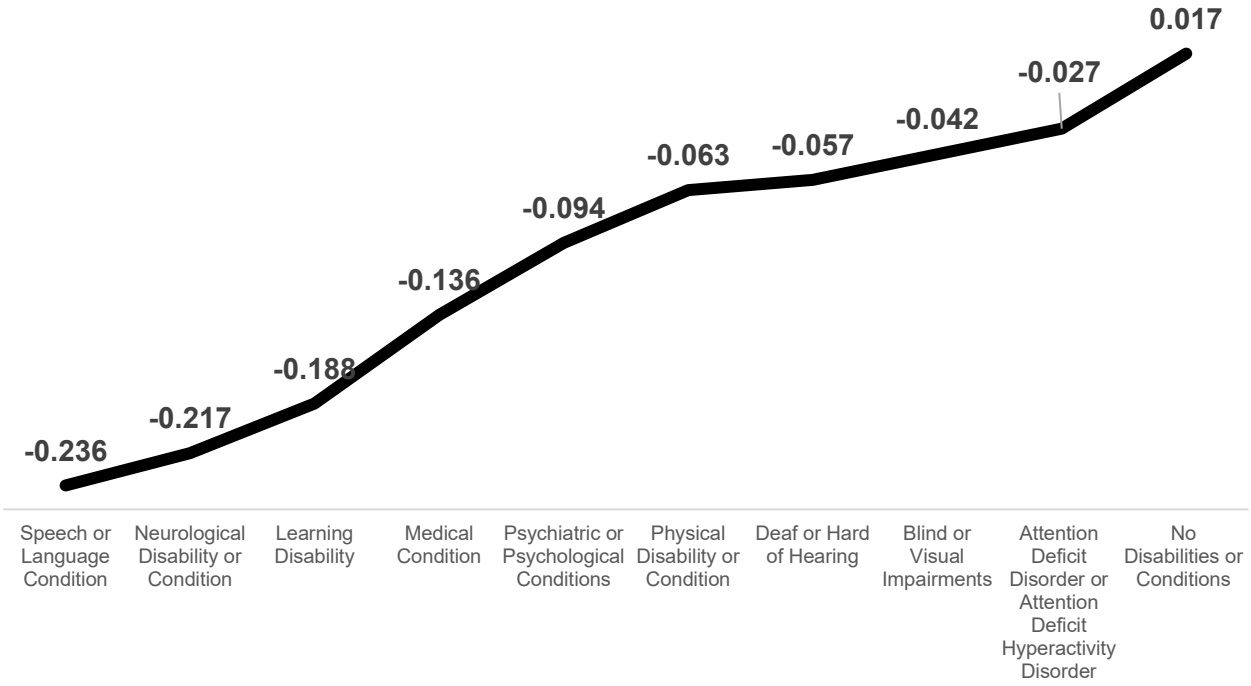


The results are mixed with regard to indirect perceptions of campus climate. While most students with any type of condition or disability were more likely than their peers without conditions or disabilities to believe their campuses are unwelcoming or prejudicial, some students with specific disabilities or conditions (Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder, blind or visual impairments, physical disabilities, and deaf or hard of hearing) did not have significantly different perceptions of indirect campus climate than their peers without disabilities or conditions. While those differences did not appear at the $p < .001$ level, the differences sometimes emerged at the $p < .05$ level.

According to Figure 3, the students who have experienced the most negative indirect campus climate are students with speech and language conditions followed by students with neurological disabilities or conditions and students with learning disabilities.

Figure 3

Students' Experiences with Indirect Campus Climate by Type of Disability or Condition



Recommendations

Campus practitioners, researchers, administrators, and policymakers should continue to recognize the unique experiences of students with disabilities or conditions in higher education institutions. Specifically, it is important to understand that students with disabilities or conditions may feel a significantly lower sense of belonging on their campuses and may be more likely to encounter discriminatory campus climates compared to college students without disabilities or conditions.

Furthermore, the results of this analysis suggest that there are some groups of students with disabilities or conditions who may need additional support compared to other students with disabilities or conditions. For instance, students with psychiatric or psychological conditions, neurological disabilities or conditions, and speech and language conditions have the lowest sense of belonging on their campuses. Those groups of students with disabilities or conditions may benefit the most from concerted efforts on campuses to welcome them, support them, and help them to feel like they belong at their respective institutions.

Additionally, students with speech and language conditions, neurological disabilities or conditions, and learning disabilities are more likely to experience negative indirect campus climate (i.e., overall perceptions that the campus climate is discriminatory) and negative direct campus climate (i.e., experiences of discrimination). Those are three groups of students with disabilities who may benefit from additional forms of support, including networks of allies who can help them to confront ableism on campus and advocates who can assist with navigating discrimination from students, staff, or faculty. Disability support centers, disability resource staff,

and disability cultural centers can also work to highlight the experiences of students with disabilities or conditions on campus, draw attention to the discrimination and ableism experienced by students, and elevate campus-wide efforts to re-center the marginalized voices and experiences of students with disabilities or conditions.

Although the present study was limited in its sample (e.g., students from only four-year colleges) and analytical approach, the results suggest that scholars should continue to take students' disabilities or conditions into account when initiating their research agendas about students' sense of belonging or perceptions of campus climate. In other words, when designing studies about the factors associated with students' sense of belonging or experiences with campus climate, researchers should include measures of students' disability identity in their models.

Additionally, researchers should investigate students' outcomes or experiences using more sophisticated analyses of students' intersectional identities and incorporate robust multi-institutional samples when possible. Given that the results of this study revealed that students had different perspectives and experiences based upon their unique disabilities or conditions, scholars should explore the experiences of students using heterogeneous categories of their disabilities or conditions as opposed to a homogenous indicators of "has a disability" or "does not have disability."

Scholars and practitioners should also unpack the sources of campus climate or discrimination and better identify particular "pain points" or areas in which students with disabilities encounter difficulties managing the disclosure of their disabilities or challenges in receiving accommodations for their disabilities (Harbour & Greenberg, 2017). In this study, I considered only combined measures of indirect and direct perceptions of campus climate; however, in future studies, it will be important to better pinpoint the various areas of campus that may prove most challenging for students, whether that be in certain locations (e.g., student union), from specific individuals (e.g., faculty), or within broader campus messaging (e.g., ableist language).

Finally, when seeking to understand some of the complex reasons why students with disabilities or conditions may withdraw before earning their college degrees, higher education administrators and policymakers should take students' sense of belonging and discriminatory campus experiences into consideration (Harbour & Greenberg, 2017). With these perspectives in mind, administrators should examine their campus cultures and environments, remove ableist practices and policies, and educate students, staff, and faculty about ways to better support students with disabilities.

The results of this study affirm that campus environments may not be welcoming to students with disabilities (Harbour & Greenberg, 2017). In fact, college students with disabilities may actively experience discrimination from the very institutional representatives who should be the first to welcome and support them: staff and faculty. As policymakers seek to understand the root causes of the higher attrition rates among college students with disabilities, they should turn to the potential influence of sense of belonging and campus climate in students' decisions to withdraw before degree completion. Additionally, policymakers, practitioners, and administrators should explore the ways in which the very culture of higher education institutions—which were often designed by individuals without disabilities who did not take the needs of students with disabilities into account when developing classrooms, buildings, policies, or practices—perpetuate ableist attitudes and discriminate against students with disabilities.

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