Relationship between Stigma and Mood for College Students with Disabilities

Undergraduate Senior Honor Thesis PSYC 4601 – Dr. Walcott, Advisor

Caroline Knox

May 2023

Abstract

Approximately 20% of college students report having a disability, including physical (visible), cognitive, and psychiatric (non-visible) disability types. Decades of research have documented negative stereotyping and perceived discrimination against students with disabilities (e.g., DaDeppo, 2009; Lyman et al., 2016). To understand the negative effects stigma may have, it is important to consider how stigma might influence one's feelings and intent to persist with college. It is also important to find factors that may mitigate negative effects, such as one's ability to bounce back from stress (resilience). This study explored correlations between the perceived stigma of students with various types of disabilities, their resilience, affect, and intent to persist from one semester to the next. It was hypothesized that college students with disabilities with higher levels of stigma would have a higher negative effect and lower intent to persist, but their level of resilience would moderate this. Using established measures, college students with different disability types, including those who receive accommodations and those who don't, were surveyed. The participants included students in the STEPP program and students who use Disability Support Services at ECU. Results found that, as perceived stigma increases, negative affect increases. Individuals with disabilities who experienced higher stigma reported lower resiliency. Although resiliency and stigma did have an impact on affect independently, resiliency did not act as a moderator, or buffer, between stigma and affect. Findings are consistent with previous qualitative studies suggesting that more mental health resources for college students with disabilities should be considered. Study limitations and directions for future research are presented.

Author Note: This work was supported by an *Undergraduate Research and Creative Activity* (URCA) award funded by ECU in Fall 2022. We are thankful for the support of this research.

Relationship between Stigma and Mood for College Students with Disabilities

Approximately 20% of college students report having a disability (McFarland et al., 2018), including physical (visible), cognitive and psychiatric (non-visible) disability types. Decades of research have documented negative stereotyping and perceived discrimination against students with disabilities (e.g., DaDeppo, 2009; Lyman et al., 2016). To understand the negative effects stigma may have, it is important to consider how stigma might influence one's feelings and intent to persist with college. It is also important to find factors that may mitigate negative effects, such as one's ability to bounce back from stress (resilience).

There are many different types of disabilities that college students report having. Some disabilities may be clearly visible to the public eye, while others may be neurological-based and less obvious to the naked eye. A few examples of visible disabilities would be people who are wheelchair-bound, blind, or have physical deformities. Each of these disabilities is easily depicted as being "different" from the norm. Conversely, there are invisible disabilities, which are harder to visibly see but are still present in individuals at the collegiate level. Examples of invisible disabilities include Autism Spectrum Disorder, ADHD, and Specific Learning Disabilities. In terms of prevalence rates, invisible disabilities are much more common (National Center for Educational Statistics, 2018).

Many universities provide support for their students who report having a disability if they choose to self-disclose their disability status. Disability support at the collegiate level includes academic advising for students, classroom supports like lecture recordings, and test-taking accommodations, and some may even have specific programs tailored to students with disabilities (Coghill & Coghill, 2021). The university at which the sample was taken provided students with a unique program for individuals with Specific Learning Disabilities. This program

is called the STEPP program and it aims to aid students with learning disabilities in their degree. The program provides students with tutoring, advising support, mandatory study halls, an internship, and mentors (<u>https://stepp.ecu.edu/about</u>). The STEPP program is a prime example of a unique program for students with disabilities at the collegiate level.

There is not an abundance of current data on disability stigma in universities, especially on individuals with invisible disabilities. One of the studies that contribute to the current data on barriers to education and positive mood outcomes for college students with disabilities was conducted several years ago (Hong, 2015). Most of the data is quite dated or focuses solely on physical disabilities, which completely ignores many college students who identify as having a disability. One example of this is a study conducted by Liu and Zhang (2021) in which they aimed to identify the relationship between stigma and mental health status in college students with disabilities but solely focused on physical (visible) disabilities. Additionally, most of the current studies do not examine mood, in general, as an outcome. Like the study conducted by Liu and Zhang, most studies seek to identify specific outcomes such as mental health status. This study aims to examine visible and invisible disability stigma, resilience as a moderator, and mood outcomes as a result.

Disability Stigma in Universities

Generally, stigma is a negative set of beliefs about people with specific characteristics. Stigmatization can impact anyone, anywhere, based upon anything, especially if you are perceived as being different. According to the classic theory of stigma by Erving Goffman, stigma is defined as a social phenomenon in which an individual is labeled by society is based on a single attribute that is judged as non-desirable (Goffman, 1963). As a result of this negative label, the person is discredited and experiences rejection or discrimination socially, academically, physically, and psychologically. Stigma plays a large role in people with disabilities' lives because they are viewed as being out of the ordinary. Many students with disabilities report being frustrated when they feel that they are being stigmatized by their peers (Shpigelman et al., 2022). The effects of stigmatization on students with disabilities' moods can be drastic.

There have been a few studies that focused on the stigmatization of individuals with disabilities, one of them being by Lei Liu and Yu Zhang (2021). This study primarily focused on individuals with physical disabilities and measured their resilience along with perceived stigma. The researchers administered the *Connor-Davidson Resilience Scale*, a *Social Impact Scale*, the *Patient Health Questionnaire-9*, and the *Generalized Anxiety Disorder-7* (Liu & Zhang, 2021). It was found that stigma and mental health issues, such as anxiety and depression were positively correlated, while resilience had a negative correlation with stigma and mental health issues (Liu & Zhang, 2021). This study is closely related to the present one, but it was conducted in China and the participants were not exclusively college students. Also, it focused on people with more visible disabilities.

Another study that contributed to the current data on disability stigma is a qualitative research study that examines stigma and coping strategies used by college students with disabilities. This qualitative study gathered 59 university students to conduct interviews about their experiences as college students with a disability (Vaccaro et al., 2019). The study resulted in rich data on coping strategies used by college students with disabilities. Specifically, the researchers found that self-advocating, having a positive outlook, and understanding were widely used among the participants (Vaccaro et al., 2019). This study contributed to resiliency data in college students with disabilities.

Disability and Mood

The CDC (2020a) reports that 32.9% of adults with disabilities report mental health issues or anxiety and depression. This may be the result of a lot of different factors, including stigmatization. Over half of adults with invisible and visible disabilities report emotional/mental distress, which is 4.6 times more prevalent in comparison to adults that do not have a disability (CDC, 2020b). This rate is alarmingly high, with many factors to consider. Individuals with disabilities may have issues with social integration, learning, and feeling accepted. These factors may harm the mood of individuals with disabilities and make it harder for them to maintain a positive outlook on life.

Social barriers may contribute largely to mood outcomes for individuals with disabilities. From not having physical access to social settings to not feeling welcomed in those settings, people with disabilities may not feel valued by their peers (Lyman et al., 2016). This can be amplified in a college setting where individuals are given complete social freedom. Many individuals with disabilities may not be invited or feel welcomed by their peers if they do not have the accessibility to attend social events. Additionally, if peer attitudes toward disabilities are negative or stereotypical, that can hinder an individual with a disability's self-esteem and social courage (CDC, 2020b). Stigmatizing behaviors at the social level can directly impact mood in college students with disabilities.

The barriers that are perceived to prevent college students with disabilities differ but are similar between different students with disabilities. In a recent qualitative study conducted at a university on college students with disabilities, students were asked to journal about their issues pertaining to their disability at their university (Hong, 2015). There was an array of barriers that students wrote about. These barriers include social stigmatization, feeling like an outcast, bad

mood outcomes, physical learning barriers, and support barriers (Hong, 2015). Students reported feeling seen as outcasts by their peers and professors because of the special attention drawn to them, along with difficulty asking their university community for help (Hong, 2015). Being seen as an outcast can hinder students' confidence in asking for accommodations. The participants also stated that they had difficulty learning because of their disability, and one student with ADHD reported issues in the classroom with focusing (Hong, 2015). Learning barriers are common for students with disabilities and may be exacerbated at the collegiate level. Lastly, students reported having issues with mental health because of their difficulties and perceived stigmatization (Hong, 2015). This study contributes greatly to current data on college students with disabilities but fails to provide quantitative data and indicators of coping strategies.

Resilience as a Moderator Between Stigmatization and Mood

Resiliency can have many definitions and take many forms for different people. Resiliency is most often seen as a positive, protective factor that helps individuals overcome hardships in life (APA, 2015). In general, resiliency can act as a buffer between mood and the impact of hardship. People who exhibit resiliency may bounce back faster than those who do not and have a more positive outlook on life. Resiliency can play a large role in overall happiness in life.

As reviewed above, individuals with disabilities typically face hardships in life due to their disability. It is important that these individuals have coping strategies and protective factors to bounce back from setbacks. Individuals with disabilities may have more setbacks than the average person, which may cause them to be resilient to protect themselves. Since resiliency can act as a buffer, more resilient individuals may cope with hardships better and develop better mood outcomes. Conversely, individuals with disabilities who are less resilient may have worse mood outcomes due to their lack of coping mechanisms. It can be beneficial to identify if resilience plays a role in better mood outcomes. Furthermore, resiliency may play a role in college students with disabilities' intent to persist at their university and as individuals.

Intent to Persist in College

Universities are concerned with students' intent to persist and graduation rates. As such, researchers have studied intent to persist to find important factors that lead to college student retention. For example, Baier and colleagues (2016) found that self-efficacy played a large role in students' intent to persist in college. This study was conducted on first-year college students, and they did not indicate the presence of a disability. It is important to identify intent to persist rates in college students with disabilities and determine how it varies from students without disabilities.

College students with disabilities, especially those who experience stigmatization and poor mood, may be at particular risk for dropping out. this risk may be mitigated with adequate social and academic support. Many students with disabilities struggle to transition from high school to college life and find it difficult to apply life skills they may have learned to real-life settings (Mader & Butrymowicz, 2020). Additionally, students with disabilities are often discouraged by others to get a college degree because their abilities are doubted (Mader & Butrymowicz, 2020). College students with disabilities experience stigmatization that may impact their intent to persist at the collegiate level.

Purpose of the Study

As reviewed above, stigmatization in college students with disabilities can impact mood outcomes, but resiliency can play a moderating role. There are some gaps in current research on stigma in college students with disabilities. There are not many quantitative studies on college students with disabilities and the mood outcomes of stigma. Additionally, there are not many studies completed on individuals with invisible disabilities such as ADHD or learning disabilities. The intent of this study is to bridge those gaps by conducting research on college students with invisible and visible disabilities. This study aims to provide more up-to-date information on the relationship between stigma and mood outcomes in college students with disabilities, using resilience as a moderator. Additionally, this study aims to identify how the factors listed above impact participants' intent to persist at their university.

I hypothesized that the correlation between stigma and mood outcomes in college students would be positive, with participants who have higher feelings of stigma, they will also have more impactful moods. I also predicted that higher levels of resilience would buffer the link between stigmatization and negative moods. Lastly, I hypothesized that there would be a positive correlation between resiliency and students' intent to persist.

Methods

This study included an anonymous, online survey along with basic demographic questions regarding participants' gender identity, age, and disability category. It aimed to evaluate the extent individuals feel stigmatized at their university, their general mood, and if resilience is a moderator for disability stigmatization and mood. The specific questionnaires used in this study include the *Postsecondary Student Survey of Disability-Related Stigma* (PSSDS), *Brief Resilience Scale* (BRS), *Positive and Negative Affect Schedule* (PANAS-SF), and three items on *Intent to Persist* used by Gore (2010). Each participant received a gift card in compensation for their time. Each participant voluntarily chose to be a part of this study and their information remained anonymous, as well as their survey results.

Participants

Participants were students at East Carolina University (ECU), a large state-funded university in North Carolina, who have a visible or invisible self-reported disability. Each participant either utilized Disability Support Services or was in a program for individuals with learning disabilities (STEPP).

After IRB approval (see Appendix A), recruitment involved having the directors of two ECU offices email the survey flyer to students (see Appendix B). The two offices were the STEPP program (a program for college students with learning disabilities) and Disability Support Services (DSS). There were also flyers posted at the DSS and STEPP offices advertising the survey with a QR code for access. All data was anonymous, but the participants were asked to share basic demographic information, then complete an online survey consisting of four brief rating scales (see Measures section below).

As a recruitment incentive, participants who voluntarily completed the survey were offered a link to a separate survey to receive compensation for their time. This was in the form of a \$5 Amazon gift card. Funding for these gift cards was provided by an Undergraduate Research and Creative Activity (URCA) award from ECU. The URCA provides funds to support facultymentored research and creative projects undertaken by undergraduate students.

Measures

Postsecondary Student Survey of Disability-Related Stigma (PSSDS)

The PSSDS consists of 27 items that aim to pinpoint the amount of perceived stigma one has experienced from others due to their disability at the collegiate level. This survey is based on a 5-point Likert scale with a score of 0 representing "never", 1 representing "occasionally", 2 representing "regularly", 3 representing "frequently", and 4 representing "all the time". The

survey also consisted of a few demographic questions on gender, age, and disability type (invisible or visible) (Trammell, 2009). This survey will evaluate the level that participants in this study feel stigmatized because of their disability at their university. The survey questions include topics such as academic success, peer relationships, sense of self and identity, and global awareness (Trammel, 2009). These topics are measured based on a specified range of scores with academic success scores ranging from 0-15, peer relationship scores ranging from 0-13, sense of self and identity scores ranging from 0-14, and global awareness scores ranging from 0-26. There is a total data range of 0-96 for this survey. Higher scores on the PSSDS indicated greater perceived stigma based on the respondents' disability. The PSSDS reverse-coded items when necessary to maintain good reliability along with revising the instrument and using a mixed process of interviews and pilot administration. Validity was maintained through additional statistical analyses that ensured variability.

Brief Resilience Scale

The *Brief Resilience Scale* (BRS) is a 6-item measure of one's perceived ability to bounce back or recover from stress (Smith et al., 2008). Students rate their agreement with six statements using a 5-point Likert scale with a score of 1 representing "Strongly Disagree", 2 representing "Disagree", 3 representing "Neutral", 4 representing "Agree" and 5 representing "Strongly Agree". According to Smith et al. (2008), the BRS demonstrates good reliability and evidence for convergent and discriminant predictive validity as a measure of resilience. The BRS is scored by reverse coding 3 of the negatively worded items, then finding the mean of the six items. Higher scores represent greater perceived ability to bounce back or recover from stress.

Positive and Negative Affect Schedule (PANAS)

The PANAS is a Likert scale that consists of 20 items in which participants indicate the extent that they have felt each emotion over the past week (Watson et al., 1988). The scores are broken into negative and positive values, each ranging from possible scores of 10-50. Participants can select values ranging from 1-5 which are 1 "very slightly or not at all", 2 "a little", 3 "moderately", 4 "quite a bit", and 5 "extremely". This survey is intended to measure how many positive emotions individuals have experienced over the past week compared to their negative emotions (Watson et al., 1988). The PANAS demonstrates good test-retest reliability with stability over time. The PANAS also demonstrates good scale and item reliability (Watson et al., 1988).

College Persistence Questionnaire

Three items from *College Persistence Questionnaire*, a survey developed for a Thesis project, consisted of questions that ask participants to indicate their intent to continue their education at a collegiate level and at the present university (Gore, 2010).

Procedures

To conduct this study in an ethical manner, I first submitted an IRB proposal. Once approved, I recruited participants by creating and sending a flyer with information about my study to individuals in the STEPP program and students who utilize DSS. The directors of these programs also agreed to email the flyer to their students. The flyer contained relevant information about the survey research and a link or QR code to the survey. Prior to signing up for the study, students were asked to self-report a disability; if they did not have one, then they were ineligible for the study. Students' information was anonymous. To receive the gift card incentive, they were asked to follow a new link to sign up to receive their gift card, and this link was not connected to their survey results.

Participants completed the surveys indicated above through Qualtrics software and the information was kept anonymous. After participants completed the survey, we analyzed the data using SPSS software. The data were used to identify if there were any statistically significant correlations between stigma, negative affect, positive affect, resilience, and intent to persist, as well as to examine resilience as a moderator between stigma and mood for college students with disabilities. The participants received their gift cards after they completed the survey.

Data Analyses

The relationships between perceived stigma, mood, resilience, and intent to persist in college students with disabilities was examined using correlational analyses. Additionally, using multiple regression procedures, we examined if resilience moderated the relationship between stigma and mood.

Results

An anonymous online survey was completed by 53 college students with disabilities. Out of the 51 participants, 81.1% identified as female, 15.1% identified as male, 1.9% identified as non-binary, and 1.9% identified as "other." The participants consisted of a majority being over the age of 22 (30.2%), a majority identifying as white/Caucasian (77.4%), 30.2% identifying as Seniors, and 22.6% identifying as "other" when asked about their grade level. The participants were then asked to indicate their specific disability, which 13.3% reported having autism spectrum disorder and 47.3% reported having Attention Deficit/ Hyperactivity Disorder (ADHD). Altogether 71.1% of participants reported having invisible disabilities.

Descriptive Statistics

Descriptive statistics for all variables of interest are reported in Table 1. Correlations are presented in Table 2.

Table 1. Descriptive Statistics

	Stigma Total Score	Positive Affect Score	Negative Affect Score	Perceived Resilience	Intent to Continue College
п	53	51	51	52	52
Total Possible Score	96	50	50	30	9
Sample Mean	43.2	28.4	25.1	17.3	8.7
SD	12.5	7.4	8.7	4.5	0.7

Table 2. Correlations for Study Variables

Variables	1.	2.	3.	4.
1. Stigma	1.0	-	-	-
2. Positive Affect	43**	1.0	-	-
3. Negative Affect	.63***	47***	1.0	-
4. Resilience	42**	.43**	52***	1.0
** <i>p</i> < .01, *** <i>p</i> < .001				

The relationships between perceived stigma in college students with disabilities, resiliency, mood outcomes, and college persistence levels were analyzed using the Pearson correlation coefficient. The correlations found from the data indicated on the PSSDS, the BRS, the PANAS, and the three questions about College Persistence were statistically significant. There was a negative correlation between stigma and positive affect (-0.43), meaning that greater perceived stigma was related to lower positive affect for student with disabilities. There was a positive correlation between stigma and negative affect (0.63), meaning that greater perceived stigma was associated with higher ratings of negative affect. There was a negative correlation between stigma and resiliency (-.42), suggesting that greater perceived stigma was related to having lower resiliency. As expected, positive and negative affect demonstrated a negative correlation (-0.47), while positive affect had a positive correlation with resiliency (0.43). Lastly, negative affect and resiliency had a negative correlation of -0.52, suggesting that students who reported higher negative affect also reported lower resiliency.

To test whether resilience buffered the link between stigmatization and negative mood, a regression was conducted. Two regression models were tested one with positive affect as the outcome and negative affect as the outcome. Total resilience score and total stigma were entered first, then the interaction between stigma and resiliency was entered next for positive affect. The overall model was statistically significant ($F_{12, 471} = 8.137$, p < .001) and explained approximately 22 % of the variants in positive affect. The stigma and resiliency variables independently predicted positive affect in expected directions. For example, the higher your stigma the lower the positive affect and the lower the resiliency the lower positive affect. However, the interaction between stigma and resiliency did not account for any additional variability in positive affect (see Table 3).

Table 3.	Regression	Equations	for	Positive	Affect
----------	------------	-----------	-----	----------	--------

	Step 1: Main Effects			Step 2: Interaction			
Criterion Variables	В	Beta	t	В	Beta	t	
Stigma Total	179	302	-2.184*	283	477	-1.264	
Resiliency Total	.511	.299	2.162*	.224	.624	.358	
* <i>p</i> < .05							

The second model looked at the same factors regarding negative affect as the outcome variable. It explained approximately 45% of variance in negative affect. The overall model was statistically significant, and stigma and resiliency independently predicted negative affect in expected directions ($F_{[2, 47]} = 21.554$, p < .001). For example, the higher the perceived stigma the higher the negative affect. Likewise, the higher one rated their resiliency, the lower they rated their negative affect. The interaction between stigma and resiliency did not account for any significant variance in negative affect (see Table 4).

Table 4. Regression Equations for Negative Affect

Step 1	1: M	lain l	Effects
--------	------	--------	---------

Step 2: Interaction

Criterion Variables	В	Beta	t	В	Beta	t
Stigma Total	.347	.502	4.322***	.371	.536	1.691
Resiliency Total	-6.18	310	-2.671**	551	277	900

p < .01; p < .001; 0.001

Discussion

The results from this study completed on 53 college students with disabilities supported the first hypothesis that there is a positive correlation between perceived stigma and impactful mood outcomes. The results support that as perceived stigma increases, negative affect increases. Although this hypothesis was supported by data collected and analyzed from the sample, the same data indicated a negative correlation between stigma and positive mood outcomes. Thus, supporting the conclusion that the higher stigma goes up, the lower positive mood falls. The correlation between perceived stigma and resiliency was interesting in that it was negative. Perceived stigma increased as resiliency decreased indicating that individuals with disabilities that experienced higher stigma, exhibited less resiliency.

The second hypothesis that resiliency will act as a moderator between stigma and mood outcomes in college students with disabilities was supported by the data collected. Although resiliency and stigma did have an impact on affect independently, resiliency did not act as a moderator between stigma and affect.

The last hypothesis that there is a positive correlation between resiliency and students' intent to persist was supported by the results but was not as strong of a score compared to other data collected. There was not much variability in the data based upon students' intent to persist as most students intended on completing their degree. More research conducted on college students with disabilities' intent to persist as underclassmen (freshman/ sophomores) would be beneficial, as this sample consisted mainly of individuals over the age of 22. Additionally, a similar study in a community college setting might examine intent of students with disabilities to persist with a 4-year degree.

The findings of the present study are consistent with previous studies on college students with disabilities such as Hong's 2015 qualitative study on college students with disabilities experiences in academia. In Hong's study, students reported feeling seen as outcasts, not supported by their teachers, and struggling in an academic setting due to their disability. The current study supports Hong's study because there was a strong positive correlation between stigma and negative mood outcomes. The more that college students with disabilities felt stigmatized, the more they felt negative mood outcomes and vice versa. The results from the current study and previous studies suggest that more mental health resources and resources in general for college students with disabilities should be considered.

Limitations

The findings in this study were based on a small sample of 53 college students with disabilities at one public institution, thus limitations were present. The sample size was small and limited to one university, so a bigger sample size and more universities would be beneficial for future research. Additionally, the mood outcome data could be altered due to numerous reasons such as mental illness or stress, not stigmatization. Participants in this sample were mainly female, Caucasian, and over the age of 22, so a more diverse sample could produce different results. Lastly, the participants in the present sample were selected from support programs that the university offered their students with disabilities, thus giving the students more support. Other universities may not have the same support systems available for their students with disabilities and stigmatization may be different. Future research should focus on more diverse samples, bigger sample sizes, university support systems, and resiliency as a moderator for college students with disabilities.

Although resiliency impacted mood, it did not have a moderation impact. Our measure of resilience may not have been adequate in determining resiliency levels as it was a small scale. Future research might use a larger resiliency scale that goes into more depth regarding resiliency. **Conclusions**

The results from this study support the hypotheses that stigma is related to more impactful mood outcomes for college students with disabilities, and that resiliency and intent to persist have a positive correlation. However, we did not find evidence that resiliency acts as a moderator between stigma and mood. Intent to persist should be investigated further due to limited variability in responses within our sample. Follow-up studies should consider other protective factors that may buffer the relationship between stigma and mood, repeating the present study with a larger and more diverse sample, and investigating support programs for college students with disabilities. The current study supports the idea that college students with disabilities should be given more resources at their university and have more mental health outlets.

References

American Psychological Association. (2015). APA Dictionary of Psychology (2nd ed.). Author

- Baier, Stefanie & Markman, Barry & Pernice, Francesca. (2016). Intent to persist in college freshmen: The role of self-efficacy and mentorship. *Journal of College Student Development*, 57, 614-619. DOI: 10.1353/csd.2016.0056
- Centers for Disease Control & Prevention (CDC). (2020a). *Many adults with disabilities report frequent mental distress*. Centers for Disease Control and Prevention. Retrieved November 17, 2022, from <u>https://www.cdc.gov/ncbddd/disabilityandhealth/features/adults-with-</u> <u>disabilities-mental-distress.html</u>
- Centers for Disease Control & Prevention (CDC). (2020b). *Disability and health disability barriers*. Centers for Disease Control and Prevention. Retrieved November 17, 2022, from <u>https://www.cdc.gov/ncbddd/disabilityandhealth/disability-barriers.html</u>
- Coghill, E. M. H., & Coghill, J. G. (2021). Supporting Neurodiverse College Student Success: A Guide for Librarians, Student Support Services, and Academic Learning Environments.
 Rowman & Littlefield Publishers.
- Goffman E. (1963). Stigma: Notes on the management of spoiled identity. Penguin.
- Gore, J. N. (2010). The importance of freshman experiences in predicting students' retention decisions. (*Unpublished master's thesis*). Appalachian State University, Boone, NC.
- Hong, B. S. (2015). Qualitative analysis of the barriers college students with disabilities experience in higher education. *Journal of College Student Development*, *56*(3), 209-226.
- Liu, L., & Zhang, Y. (2021). Relationship between stigma and mental health of physically disabled: Mediating effect of resilience. *Psychiatria Danubina*, 33(4), 560–565. <u>https://doi.org/10.24869/psyd.2021.560</u>

- Lyman, M. J., Beecher, M. E., Griner, D., Brooks, M. L., Call, J., & Jackson, A. P. (2016). What Keeps Students with Disabilities from Using Accommodations in Postsecondary Education? A Qualitative Review. *The Journal of Postsecondary Education and Disability*, 29, 123-140.
- Mader, J., & Butrymowicz, S. (2020, March 30). *The vast majority of students with disabilities don't get a college degree*. The Hechinger Report. Retrieved January 7, 2023, from <u>https://hechingerreport.org/vast-majority-students-disabilities-dont-get-college-degree/</u>
- McFarland, J., Hussar, B., Wang, X., Zhang, J., Wang, K., Rathbun, A., Barmer, A., Forrest Cataldi, E., & Bullock Mann, F. (2018, May 23). *The condition of Education 2018*.
 National Center for Education Statistics (NCES) Home Page, a part of the U.S. Department of Education. Retrieved from <u>https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2018144</u>
- National Center for Education Statistics. (2018, May). Table 311.10. Number and percentage distribution of students enrolled in postsecondary institutions, by level, disability status, and selected student characteristics: 2015–16 [Data table]. In *Digest of education statistics*. U.S. Department of Education, Institute of Education Sciences. Retrieved 06/28/2023, from https://nces.ed.gov/programs/digest/d20/tables/dt20_311.10.asp.
- Shpigelman, C. N., Mor, S., Sachs, D., & Schreuer, N. (2022). Supporting the development of students with disabilities in higher education: Access, stigma, identity, and power. *Studies in Higher Education*, 47(9), 1776-1791.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200.

- Trammell, J. (2009). Postsecondary students and disability stigma: Development of the postsecondary student survey of disability-related stigma (PSSDS). *Journal of Postsecondary Education and Disability*, 22, 106-116.
- Vaccaro, A., Moore, A., Kimball, E., Troiano, P. F., & Newman, B. M. (2019). "Not gonna hold me back": Coping and resilience in students with disabilities. *Journal of Student Affairs Research and Practice*, 56(2), 181-193.
- Watson, D., Clark, L.A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063.

APPENDIX A: IRB Approval Letter



EAST CAROLINA UNIVERSITY University & Medical Center Institutional Review Board 4N-64 Brody Medical Sciences Building Mail Stop 682 600 Moye Boulevard · Greenville, NC 27834 Office 252-744-2914 · Fax 252-744-2284 · rede.ecu.edu/umcirb/

Notification of Exempt Certification

 From:
 Social/Behavioral IRB

 To:
 Caroline Knox

 CC:
 Christy Walcott

 Date:
 2/28/2023

 Re:
 UMCIRB 23-000077 Relationship between Stigma and Mood for College Students with Disabilities

I am pleased to inform you that your research submission has been certified as exempt on 2/27/2023. This study is eligible for Exempt Certification under category # 2a,b.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

Document Full Survey(0.01) KnoxFlyer - Updated.pdf(0.01) Online Survey Consent(0.01) Senior Honors Thesis Proposal(0.01) Description Surveys and Questionnaires Recruitment Documents/Scripts Consent Forms Study Protocol or Grant Application

For research studies where a waiver or alteration of HIPAA Authorization has been approved, the IRB states that each of the waiver criteria in 45 CFR 164.512(i)(1)(i)(A) and (2)(i) through (v) have been met. Additionally, the elements of PHI to be collected as described in items 1 and 2 of the Application for Waiver of Authorization have been determined to be the minimal necessary for the specified research.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418 IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418

APPENDIX B: Recruitment Flyer





VOLUNTEERS NEEDED FOR AN ANONYMOUS RESEARCH STUDY ABOUT HOW DISABILITY STIGMA MIGHT INFLUENCE ONE'S FEELINGS, RESILIENCY, & PERSISTENCE WITH COLLEGE STUDIES

Please email Dr. Christy Walcott at <u>walcottc@ecu.edu</u> or call 252-328-1378 for study-related questions.

Call the University & Medical Center Institutional Review Board at 252-744-2914 for questions about your rights as a research participant. Do you have a visible or invisible disability?

Want to help ECU researchers learn about your experiences?

> Responses are anonymous & confidential

\$5 gift card for everyone who completes survey

Online survey takes only ~ 10 minutes

Click SURVEY LINK or use QR code below:

