

Attitudes Toward College Students with Disabilities Through the Lenses of Contact Theory and Pluralistic Ignorance

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Abstract

With greater numbers of students with disabilities are matriculating into college this research study sought to understand how contact theory and pluralistic ignorance influences the attitudinal formation of college students toward their peers with disabilities. A total of 1,508 college students from American College Personnel Association (ACPA) – College Student Educators International member higher education institutions responded to a survey designed to study attitudinal formation of college students. Utilizing analysis of variance evidence of pluralistic ignorance was found where students rated their comfort with their peers with disabilities higher than other college students. Additionally, utilizing analysis of correlation found the quality of the students' contact with a peer with a disability was important in the attitude formation of college students toward their peers with disabilities. The findings provide implications for student affairs professionals to create interventions that aid in the formation of positive attitudes toward college students with disabilities.

Keywords: attitude formation, college students, disabilities, contact theory, pluralistic ignorance

Introduction

The diversity landscape in higher education dramatically changed with the 1990 passage of the Americans with Disabilities Act (Myers, Lindburg, & Nied, 2013). Greater numbers of students with disabilities are attending and graduating college (U.S. Census Bureau, 2010). With these successes and the projected enrollment spikes of traditional aged college students, the number of students with disabilities enrolled in college is projected to continue to increase (Snyder & Dillow, 2010; United States Department of Education, National Center for Education Statistics [ED NCES], 2015). Since the college environment is one setting where students with and without disabilities will interact with each other, what attitudes toward students with disabilities are formed from these interactions?

Addressing the attitudes college students with and without disabilities have toward their peers with disabilities is particularly important since “meanings [are] assigned to disability and the patterns of response to disability ... emanate from, or are attendant upon, those meanings” (Linton, 1998, p. 8). Linton’s perspective is important since many college students, faculty, and staff, have had little contact with individuals with disabilities in part due to their educational settings separate from their peers with disabilities (Evans, Assadi, & Harriott, 2005; Hall & Belch, 2000).

Thus, many people have not had the opportunity to experience and learn about various disabilities and to understand the experiences of individuals with disabilities, which may result in the formation of negative attitudes borne out of fear and ignorance (Marks, 1999). The challenge for higher education is to provide opportunities for students to confront their biases and negative attitudes toward their peers whom they perceive different from themselves.

Students with and without disabilities will eventually need to address their biases and attitudes as they respond to the diverse nature of their social environments beyond their educational pursuits and career aspirations. The purpose of this study was to examine the contributing factors in college students' attitudinal formation toward their peers with disabilities. Understanding what factors influence the formation of attitudes can provide a context from which programs can be developed and implemented for college students' personal and professional growth (McManus, Feyes & Saucier, 2010; Prentice & Miller, 1993).

The results of this study will benefit student affairs professionals as it relates to their work in developing students to be inclusive and global citizens. The lenses of contact theory and pluralistic ignorance were utilized to understand what factors influence the formation of attitudes. An overview of both theories and attitude formation are presented below.

Ajzen (1988) defined attitude as "a disposition to respond favorably or unfavorably to an object, person, institution, or event" (p. 4). Grounded in the tendency of the individual to form judgmental, emotional, and overt behavioral responses, the individual responds to a person, place object, or event by tapping into the stored memories of past experiences and present choices (Miller & Sammons, 1999; Pietri, Fazio, & Shook, 2013; Webster, Adams, & Beehr, 2014). The college student interacting with a peer with a disability may compare this experience against his/her comfort range with whether or not the interaction was unfamiliar or unsettling (Miller & Sammons, 1999). For this research study the term attitude accounts for the disposition or comfort level of college students toward their peers with disabilities. Thus, the terms attitude and comfort level convey the same meaning throughout this study.

Contact theory and pluralistic ignorance provided the framework to better investigate what factors contributed to the attitudinal formation of college students toward their peers with disabilities. Several researchers suggested the level of contact, for example direct or indirect, does influence positive attitudes toward college students and/or individuals with disabilities (Gibbons, Cihak, Mynatt & Wilhoit, 2015; Hunt & Hunt, 2000; McManus, Feyes & Saucier, 2010; Shannon, Schoen, & Tansey, 2009; Smith, 2003). In Allport's (1954) seminal work on intergroup contact theory, Allport hypothesized contact alone could reduce negative attitudes when "in and out-group members" were considered equal, each group had common goals and could cooperate with each other to complete the task, and the contact was supported by an authoritarian presence (Allport, 1954). However, the nature of the disability and contact via social situations can provoke anxiety, thus affecting the outcome of the contact (Fichten, 1986; Stovall & Selacek, 1983). Yet, while contact can challenge the attitudes of college students toward their peers with disabilities for the better (Nosse & Gavin, 1991; Shannon et al, 2009; Smith, 2003; Stewart, 1988) does the quantity and/or quality of the contact make a difference?

Distinguishing between quantity of contact and quality of contact is an important consideration when investigating the attitudes of students without disabilities toward their peers with disabilities (McManus, Feyes, Saucier, 2010; Plant & Devine, 2003; Shields & Taylor, 2014). Simply having contact with students with disabilities can result in a positive attitude toward them (Shields & Taylor, 2014). However, Plant and Devine's (2003) research of racial groups and McManus et al.'s (2010) research of individuals with intellectual disabilities point out the quality of the experience with members of the "out-group" affects the attitudes of members of the "in-group". Although attitudinal change toward students with disabilities can change through contact, Pettigrew, Tropp, Wagner and Christ's (2011) research on Allport's original intergroup contact theory confirms Allport's (1954) admonition for negative attitudes to be reduced other interventions are needed such as structured cooperative interactions, peer facilitated programs, and support from university administration. Allport's frame allows for the relational dynamic between the "in-group" and "out-group" to engender empathy and a reduction in anxiety (Tropp & Pettigrew, 2008). Although the research on contact theory appears promising, how important are the perceptions of the "in-group" toward the "out-group" in attitude formation?

To facilitate the inception of Allport's suggested interventions, institutions of higher education need to address the "misperceptions", any discrepancy or "gap between actual attitudes or behavior" that exist in its institutional culture (Berkowitz, 2004, p. 7). "Misperceptions occur when there is an overestimation or underestimation of the prevalence of attitudes and/or behaviors in a group or population" (Berkowitz, 2004, p. 7). A common example of misperception is pluralistic ignorance. First used by Allport in 1931, pluralistic ignorance is a cognitive construct, i.e., perception, where individuals may believe their peers' attitudes or beliefs are more positive or negative than their own (Prentice & Miller, 1993; Shelton & Richeson, 2005). Depending on the attractiveness of certain behaviors, pluralistic ignorance may be a relevant factor in perpetuating negative attitudes and/or discriminatory actions (Prentice & Miller, 1993). For example, pluralist ignorance is the factor that explained how collegiate non-student athletes and student athletes erroneously believed their peers had a more favorable perspective on alcohol use than their own, thus aligning their behaviors with the false norm (Feltz, Warners, Gilson & Santiago, 2011; Prentice & Miller, 1993). Kaier, Cromer, Johnson, Strunk, and Davis (2015) also conducted a recent study that looked at collegiate student athletes' and non-student athletes' personal stigma and perceived public stigma (PPS) toward mental illness. The results of this research study indicated "athletes reported greater PPS than personal stigma", thus suggesting the presence of pluralistic ignorance relating to disability (Kaier et al., 2015, p. 735).

While there is evidence contact theory and pluralistic evidence contributes to the attitudinal formation of individuals toward individuals with disabilities, this study addressed how those theories related to college students' attitudinal formation toward their peers with physical, psychiatric, and learning disabilities. Specifically, the researchers sought to answer the following research questions: (a) What is the relationship between the number of students with disabilities known by college students and how well these students are known? (b) What is the relationship between the number of students with disabilities known by college students and their comfort level with students having physical, psychiatric, and learning disabilities? (c) To what extent is there a difference between the students' reported comfort level with students having physical, psychiatric, and learning disabilities and the students' reported perceptions of their friends, and the typical college student's comfort level with students having physical, psychiatric, and learning disabilities?

Materials and Methods

To obtain data regarding the attitudes college students have toward their peers with disabilities, a web-based survey with a focus on disability was developed. The following survey categories created the structure from which data was analyzed and reported about college students' attitudes toward their peers with disabilities: demographic, comfort level with students with disabilities, and quantity and quality of contact with students with disabilities. Included in the category of comfort with students with disabilities were three subcategories. This primary category of questions asked the respondents to report on their own comfort level, their perception of their friends' comfort levels, and their perception of typical college students' comfort levels with students with physical, psychiatric and learning disabilities using a four-point Likert scale ranging from (1) very comfortable to (4) very uncomfortable. Likewise, students were asked to respond to questions about how many students with disabilities they knew since coming to college and how well they knew them. They rated the last question on a four-point Likert scale ranging from (1) very well to (4) hardly at all.

The survey had been assessed for content validity and reliability (Leedy & Ormrod, 2005; Pallant, 2013). The survey instrument was examined by an expert panel of six individuals and a pilot group. Verbal and/or email comments were collected and modifications to the survey were made. Once data about the survey was obtained, the internal consistency was determined. Internal consistency "is the degree to which the items that make up the scale are all measuring the same underlying attribute" (Pallant, 2007, p. 6). A Cronbach's coefficient alpha of .79 was obtained, indicating items were appropriately measuring the attributes.

The researchers engaged the assistance of ACPA College Student Educators International to disseminate the research protocol via email to ACPA members who were upper management student affairs personnel. This type of dissemination of the introductory email secured anonymity of the respondent. The email message included the purpose of the study and asked the recipients to share the survey with the students at their institutions. A total of 1,508 students participated in the study. All of the respondents were 18 years of age or older and enrolled in the higher education institution where they received the survey.

For this study, correlation analysis was utilized to understand the “strength and direction of the relationship between two variables” and analysis of variance to compare the variance “between the different groups with the variability within each of the groups” (Pallant, 2013, p. 126, p. 258). Two correlation analyses were run. The first analysis sought to determine the type of relationship between the number of students with disabilities known by the student since coming to college and how well these students were known. The second analysis sought to determine the type of relationship between the number of students with disabilities known by the student since coming to college and the comfort level of the student in relation to students with physical, psychiatric, and learning disabilities. This research study also compared the variance between the mean scores of all students’ comfort level with physical, psychological and learning disabilities.

Results and Discussion

Table 1, Quality of Contact with Known Students with Disabilities, indicates the average number of students with disabilities the 1,508 students reported knowing since coming to college was 2.80 (SD = 1.0) with a range from 0 (9.8%) to 5 or more (32.9%). The students’ mean rating of how well they knew the students with disabilities since coming to college was 3.23 (SD = .8) with a range from (1) very well (5.1%) to (4) hardly at all (48.1%). The analysis determined a somewhat strong correlation between the number of students with disabilities known and how well they knew them ($r = -.33, p < .01$). Since the direction of the correlation is negative, this statistic suggests the higher number of students with disabilities the college students met since coming to college, the less well they knew them.

Table 1: Quality of Contact with Known Students with Disabilities

	Mean	Std. Deviation	N
Number of SWD known since college	2.80	1.008	1508
Degree of knowing SWD on campus	3.23	.886	1508

Table 2, Quality of Knowledge of and Comfort Level with Students with Disabilities, indicates the average number of students with disabilities the 1,508 students reported knowing since coming to college was 2.80 (SD = 1.0) with a range from 0 (9.8%) to 5 or more (32.9%). The mean rating of students’ comfort level toward students with physical disabilities was 1.65, for psychiatric disabilities 1.95, and for learning disabilities 1.55 (using a scale (1) very Comfortable to (4) very uncomfortable). The analysis determined a small, yet significant, negative correlation between the number of students known and comfort levels with students with physical ($r = -.15, p < .01$), psychiatric ($r = -.16, p < .01$) or learning disabilities ($r = -.15, p < .01$). Since the direction of the correlation for all three disability types is negative, the higher numbers of students with disabilities the students have met, the less levels of comfort they experienced with them, suggesting a negative attitude.

Table 2: Quality of Knowledge of and Comfort Level with Students with Disabilities

	Mean	Std. Deviation	N
How well do you know SWD on campus	3.23	.886	1508
Your comfort, physical disabilities	1.65	.598	1508
Your comfort, psychological disabilities	1.95	.658	1508
Your comfort, learning disabilities	1.55	.608	1508

Three one-way repeated measures analysis of variance (ANOVA) were used to compare the students' reported personal attitudes toward their peers with physical, psychological, or learning disabilities with their perceptions of their friends' and their perceptions of the typical college students' attitudes. To measure their attitudes, their perceptions of their friends, and the typical college students' attitudes toward their peers with disabilities, the students were asked a series of comfort questions related to each category of disability. The answers ranged from (1) very comfortable to (4) very uncomfortable.

Table 3, Comfort with Students with Physical Disabilities, indicates the students' personal attitudes toward their peers with physical disabilities ($M = 1.65$, $SD = .59$) were more positive than their perceived attitudes of their friends ($M = 1.93$, $SD = .55$) and their perceived attitudes of the typical college student ($M = 2.19$, $SD = .60$). A one-way repeated measures ANOVA was used to compare the students' self-reported comfort level, their perception of their friends' comfort level, and their perception of the typical college students' comfort level toward students with physical disabilities. The repeated measures ANOVA showed a difference in the students' self-reported comfort level, their perception of their friends' comfort level, and their perception of the typical college students' comfort levels with their peers with physical disabilities (Wilks' Lamda $F(2, 1506) = 427.27$, $p < .001$, $\eta^2 = .31$). The partial eta squared value of .31 demonstrates the effect size of the difference was large using Cohen's (1988) proposed guidelines.

Table 3: Comfort with Students with Physical Disabilities

	Mean	Std. Deviation	N
Your comfort, physical disabilities	1.65	.598	1508
Friends comfort, physical disabilities	1.93	.554	1508
Typical students comfort, physical disabilities	2.19	.602	1508

Table 4, Comfort with Students with Psychiatric Disabilities, indicates the students' personal attitudes toward their peers with psychiatric disabilities ($M = 1.95$, $SD = .65$) were more positive than their perceived attitudes of their friends ($M = 2.17$, $SD = .64$) and their perceived attitudes of the typical college student ($M = 2.46$, $SD = .67$). A one-way repeated measures ANOVA was used to compare the students' self-reported comfort level, their perception of their friends' comfort level, and their perception of the typical college students' comfort level toward students with psychiatric disabilities. The repeated measures ANOVA showed a difference in the students' self-reported comfort level, their perception of their friends' comfort level, and their perception of the typical college students' comfort levels with their peers with psychiatric disabilities (Wilks' Lamda $F(2, 1506) = 349.32$, $p < .001$, $\eta^2 = .24$). The partial eta squared value of .24 demonstrates the effect size of the difference was large using Cohen's (1988) proposed guidelines.

Table 4: Comfort with Students with Psychiatric Disabilities

	Mean	Std. Deviation	N
Your comfort, psychological disabilities	1.95	.658	1508
Friends comfort, psychological disabilities	2.17	.644	1508
Typical students comfort, psychological disabilities	2.46	.675	1508

Finally, Table 5, Comfort with Students with Learning Disabilities, indicates the students' personal attitudes toward their peers with learning disabilities ($M = 1.55$, $SD = .60$) were more positive than their perceived attitudes of their friends ($M = 1.84$, $SD = .58$) and their perceived attitudes of the typical college student ($M = 2.06$, $SD = .60$). A one-way repeated measures ANOVA was used to compare the students' self-reported comfort level, their perception of their friends' comfort level, and their perception of the typical college students' comfort level toward students with learning disabilities. The repeated measures ANOVA showed a difference in the students' self-reported comfort level, their perception of their friends' comfort level, and their perception of the typical college students' comfort levels with their peers with learning disabilities (Wilks' Lamda $F(2, 1506) = 413.27$, $p < .001$, $\eta^2 = .35$). The partial eta squared value of .35 demonstrates the effect size of the difference was large using Cohen's (1988) proposed guidelines.

Table 5: Comfort with Students with Learning Disabilities

	Mean	Std. Deviation	N
Your comfort, learning disabilities	1.55	.608	1508
Friends comfort, learning disabilities	1.84	.585	1508
Typical students comfort, learning disabilities	2.06	.600	1508

Two key findings emerged from the data. One key finding was that the quantity of the contact with a student with a disability mattered in forming negative attitudes toward this student cohort. Results from the study showed the higher number of students with disabilities college students met since coming to college; the less well they knew them. Likewise, the study revealed the higher number of students with disabilities college students met since coming to college; the less positive attitudes they had toward them. While the current study did not find the quantity of students met since coming to college resulted in positive attitudes toward them, analysis of the data suggests the inverse to be true. It appears the quality of the relational dynamic with students with disabilities influences positive attitudes toward this group of students. The account for this finding may be found in Allport's (1954) original hypothesis indicating in order to reduce a negative attitude: "equal status of the groups, intergroup cooperation, common goals, and authority support" need to be present (Pettigrew, 2008, p. 188). College administrators and student affairs professionals can utilize this finding to increase greater positive attitudes among their students and toward those students with disabilities. The works of Schlossberg (1989) and Allport (1954) offer the theoretical basis for programmatic student development.

Using Nancy Schlossberg's (1989) seminal work on marginality and mattering, faculty, student affairs professionals and students can work together to increase and encourage mutual experiences of mattering between college students and their peers with disabilities. By utilizing the framework of Allport (1954), college administrators and student affairs professionals commissioned to develop and implement programming to further the developmental goals of students could place particular emphasis on developing intergroup contact interventions focused on positive attitudes between groups. Possibly, these encounters could increase aspects of mattering particularly sensing one is noticed, cared for, and appreciated (Schlossberg, 1989). In turn, this may increase empathy and reduce anxiety as indicated by the research of Tropp and Pettigrew (2005).

Another key finding in this study indicated respondents perceived their friends and typical college students had more negative attitudes than they did toward their peers with disabilities. While not unusual given the research conducted on pluralistic ignorance, it may be students, while internally believing they have positive attitudes toward their peers with disabilities, are externally adopting the negative perceived beliefs and norms of their friends and the typical college student (Prentice & Miller, 1993; Shelton & Richeson, 2005). This possibly explains the reason a reported higher number of contacts with students with disabilities did not change perception and attitudes.

Once again, it appears the quality of contact between the “in-group” and “out-group” may account for the perceived negative attitudes of their friends and the typical college student toward their peers with disabilities. It seems imperative that college administrators, faculty, and student affairs professionals attend to this finding in the study.

Focusing on interventions to address the misperceptions of the norms of the college community may encourage positive growth in intergroup contact and prevent students from returning to previously held negative attitudes. The following are some ideas for such interventions.

- An intentional social norming campaign to promote inclusion efforts of the campus community. Surveying all campus stakeholders regarding their attitudes toward faculty, staff, and students with disabilities could result in passive programming utilizing posters that portray the realistic attitudes of the campus community toward its members with disabilities. This is often used in social norming programs regarding alcohol and drug use on college campuses (Prentice & Miller, 1993).
- A disability course in which myths and stereotypes are addressed. In this course, content is learned through interactions with individuals with disabilities utilizing a qualitative research methodology. Examples of courses include Saint Louis University’s graduate courses, “Disability in Higher Education and Society” and “Disability Administration in Higher Education”.
- Utilizing disability awareness and ally development initiatives such as those offered by Saint Louis University’s Ability Institute. The Ability Institute facilitates Allies for Inclusion: The Ability Exhibit (the award-winning national traveling exhibit) and the Ability Ally Initiative Workshops, both of which support the Institute’s mission to “promote global inclusion by providing educational opportunities to transform attitudes and develop allies for people with disabilities” (“The Ability Institute”, n.d.).
- Other transformative initiatives such as those sponsored by the University of Washington’s Disabilities, Opportunities, Internetworking, and Technology (DO IT) program (DO IT, n.d.) and the University of Connecticut Neag School of Education’s Postsecondary Disability Training Institute (UConn, n.d.)

With intentional programming using the framework of Allport (1954) and Tropp and Pettigrew’s (2005) focus on the relational dynamic in intergroup contact, students may gain greater knowledge of their friends and typical college students’ attitudes toward their peers with disabilities. This knowledge, understanding, and empathy may result in decreasing the variance in their perceptions.

One limitation to this research study was the self-report survey used to determine the attitudes college students had toward their peers with disabilities. A primary concern with survey studies is whether the assumptions in the survey questions are relevant to the respondents (Soder, 1990). Attitudes are multidimensional in that they are formed through the interaction between the perceived disability and the situation in which the perceived disability is found. A single scale cannot completely assess these attitudes (Gordon, Minnes, & Holden, 1990).

Additionally, students reported perceptions presumably true for themselves, their friends, and the typical college student. Possibly, these students may have answered bearing in mind what they thought the researchers wanted to read, or in a way to be socially desirable (Fischer, 1970; Leedy & Ormrod, 2005).

Another limitation is the manner of dissemination of the research protocol. The manner of dissemination resulted in not knowing the origins of the student respondents since this was a non-probability sample convenience type. As a convenience sample, the findings provide valuable information for college student personnel administrators.

A final limitation is the study did not focus on other possible independent variables such as gender, educational classification of the respondents, and disability. Deal (2003) suggested having a disability has been a predictive factor in determining attitudes toward individuals with disabilities. These variables could influence attitude formation, but these were not considered in this study. Future analyses of these variables within this data set could yield findings of particular interest to the field of student affairs.

Another point to consider is the impact Universal Instructional Design (UID) may have on attitudinal formation in college students toward their peers with disabilities. Myers, Jenkins-Lindburg and Nied’s (2013) understanding of UID lends itself to the following questions: Would knowing the strengths, limitations, similarity, and differences in learning styles have an impact on attitudinal formation? Would this knowledge gained through intergroup contact aid in raising empathy and decreasing anxiety, thus increasing positive attitudes?

Conclusion

College students' attitudes toward their peers with disabilities are learned by the judgments and emotional responses to the interactions with individuals with disabilities (Linton, 1998; Miller & Sammons, 1999; Webster, Adams, & Beehr, 2014).

This research study indicates it is not the quantity of interactions with students with disabilities that changes the judgments attached to the meanings of the interaction, but suggests it is the quality of those interactions that leads to judgment change. Using intergroup contact theory and social norming theory, student affairs professionals can find interventions to influence college students' attitudes toward their peers with disabilities and the institution's culture. As the college landscape continues to diversify to include more students with disabilities, it is imperative learned judgments toward students with disabilities are challenged and new meanings are formed.

References

- Ajzen, I. (1988). *Attitude, personality, and behavior*. New York, NY: Springer.
- Allport, G. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Berkowitz, A. (2004). *The social norms approach: Theory, research, and annotated bibliography*. Retrieved from http://www.alanberkowitz.com/articles/social_norms.pdf.
- Cohen, J., (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.) Hillsdale, NJ: Lawrence Erlbaum Associates.
- Deal, M. (2003). Disabled people's attitudes toward other impairment groups: A hierarchy of impairments. *Disability & Society, 18*, 897-910.
- Disabilities, Opportunities, Internetworking, and Technology (DO IT). University of Washington. Retrieved from <http://www.washington.edu/doit/>.
- Evans, N., Assadi, J., & Herriott, T. (2005). Encouraging the development of disability allies. In R. Reason, E. Brodido, T. Davis & N. Evans (Eds.), *Special issue: Developing social justice allies* (pp. 67-79). *New Directions for Student Services*, 2005 (10). Hoboken, NJ: Wiley.
- Feltz, D., Warners, A., Gilson, T., & Santiago, O. (2011). Comparing alcohol use patterns of female of student-athletes and their team captains in intercollegiate softball teams. *Journal for the Study of Sports and Athletes in Education, 5* (3), 197-214.
- Fichten, C. S. (1986). Self, other and situation-referent automatic thoughts: Interaction between people who have a physical disability and those who do not. *Cognitive Therapy and Research, 10*, 571-587.
- Fischer, E. (1970). Orientation to seeking professional help: Development and research utilizing an attitude scale. *Journal of Consulting and Clinical Psychology, 35*, 79-90.
- Gibbons, M., Cihak, D., Mynatt, B., & Wilhoit, B. (2015). Faculty and student attitudes toward postsecondary education for students with intellectual disabilities and autism. *Journal of Postsecondary Education and Disability, 28*(2), 149 – 162.
- Gordon, E. D., Minnes, P. M., & Holden, R. R. (1990). The structure of attitudes toward persons with disability, when a specific disability and context are considered. *Rehabilitation Psychology, 35*, 79-90.
- Hall, L. & Belch, H. (2000). Setting the context: Reconsidering the principles of full participation and meaningful access for students with disabilities. *New Directions for Student Services, 90*, 5-17.
- Hunt, B., & Hunt, C. S. (2000). Attitudes toward people with disabilities: A comparison of undergraduate rehabilitation and business majors. *Rehabilitation Education, 14*, 269-283.
- Kaier, E., Cromer, L., Johnson, M., Strunk, K., & Davis, J. (2015). Perceptions of mental illness stigma: Comparisons of athletes to non-athlete peers. *Journal of College Student Development, 56* (7), 735-739.
- Lee, A. (2001). The mere exposure effect: An uncertainty reduction explanation revisited. *Personality and Social Psychology Bulletin, 27*, 1255-1266.

- Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design* (8th ed.) Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
- Linton, S. (1998). *Claiming disability: Knowledge and identity*. New York, NY: University Press.
- Marks, D. (1999). *Disability: Controversial debates and psychosocial perspectives*. New York: N.Y.: Routledge.
- McManus, J., Feyes, K., & Saucier, D. (2010). Contact and knowledge as predictors of attitudes toward individuals with intellectual disabilities. *Journal of Social and Personal Relationships, 28*(5), 579-590.
- Miller, N., & Sammons, C. (1999). *Everybody is different; Understanding and changing our reactions to disabilities*. Baltimore, MD: Brookes Publishing Co.
- Myers, K., Jenkins-Lindburg, J., & Nied, D. (2013). *Allies for inclusion: Disability and equity in higher education*. Hoboken, NJ: Wiley Periodicals.
- Nosse, L. J., & Gavin, K. J. (1991). Influence of direct contact on college students' attitude toward adults with mental handicaps. *College Student Journal, 25*, 201-206.
- Pallant, J. (2013). *SPSS: Survival manual*. New York, NY: McGraw-Hill.
- Pettigrew, T. (2008). Future directions for intergroup contact theory and research. *International Journal of Intercultural Relations, 32*, 187-199.
- Pettigrew, T. & Tropp, L. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90* (5), 751-783.
- Pettigrew, T., Tropp, L., Wagner, U., Christ, O. (2011). Recent advances in intergroup contact theory. *International Journal of Intercultural Relations, 35*(2011), 271-280.
- Pietri, E., Fazio, R., & Shook, N. (2013). Weighting positive versus negative: The fundamental nature of valence asymmetry. *Journal of Personality, 81*, 196-208.
- Plant, E., & Devine, P. (2003). The antecedents and implications of interracial anxiety. *Personality and Social Psychology Bulletin, 29*, 790-801.
- Prentice, D. & Miller, D. (1993). Pluralistic ignorance and alcohol use on campus: Some consequences of misperceiving the social norm. *Journal of Personality and Social Psychology, 64*(2), 243-256.
- Schlossberg, N. (1989). Marginality and Mattering: Key issues in building community. In D.C. Roberts (Ed.), *Designing campus activities to foster a sense of community* (pp. 5-15). New Directions for Student Services, 48. San Francisco, CA: Jossey-Bass.
- Shannon, C., Schoen, B., & Tansey, T. (2009). The effect of contact, context, and social power on undergraduate attitudes toward persons with disabilities. *Journal of Rehabilitation, 75*(4), 11-18.
- Shelton, J., & Richeson, J. (2005). Intergroup contact and pluralistic ignorance. *Journal of Personality and Social Psychology, 88* (1), 91-107.
- Shields, N., & Taylor, N. (2014). Contact with young adults with disability led to a positive change in attitudes toward disability among physiotherapy students. *Physiotherapy Canada, 66* (3), 298-305.
- Smith, V. M. (2003). "You have to learn who comes with the disability": Students' reflections on service learning experiences with peers labeled with disabilities. *Research and Practice for Persons with Severe Disabilities, 28*, 79-90.
- Snyder, T., & Dillow, S. (2011). *Digest of Education Statistics 2010*. Washington, D.C.: National Center for Educational Statistics, Institute of Education Sciences, United States Department of Education.
- Soder, M. (1990). Prejudice or ambivalence? Attitudes toward people with disabilities. *Disability, Handicap, and Society, 5*, 227-241.
- Stewart, C. C. (1988). Modification of student attitudes toward disabled peers. *Adapted Physical Activity Quarterly, 5*, 44-48.
- Stovall, C., & Sedlacek, W. E. (1983). Attitudes of male and female university students toward students with different physical disabilities. *Journal of College Student Personnel, 24*, 325-330.

- The Ability Institute. (n.d.). Retrieved from: <http://www.slu.edu/school-of-education-home/allies-for-inclusion-the-ability-exhibit/about-the-ability-exhibit>.
- Tropp, L., & Pettigrew, T. (2005). Differential relationships between intergroup contact and affective and cognitive dimensions of prejudice. *Personality and Social Psychology Bulletin*, 31(8), 1145-1158.
- U.S. Department of Education, National Center for Education Statistics. (2015). *Fast Facts*. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=60>.
- Webster, J., Adams, G., & Beehr T. (2014). Core work evaluation: The viability of higher-order work attitude construct. *Journal of Vocational Behavior*, 85, 27-38.
- University of Connecticut (n.d). 29th Annual Postsecondary Disability Training Institute. Retrieved from <http://pti.education.uconn.edu/>.