

A Longitudinal Study of Attitudes Toward Disability Among Rehabilitation Counseling Students

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The purpose of the present study was to determine the extent to which a two-year master's program in rehabilitation counselor education was associated with change in the students' attitudes toward disability and persons with disabilities at a Southwest University in the U.S. using the Modified Issues in Disability Scale (MIDS) (Makas, 1991). There were 101 complete pretest surveys and 53 completed posttest surveys. Only those with complete data both at pretest and posttest were included in the study. Data were collected in a span of six years beginning Fall 2002 to Fall 2008. Results revealed a significant increase or improvement in attitudes among the students from pretest to posttest. Furthermore, students' attitudes increased across the board for both traditional and distance learners, revealing that both types of enrollment were suitable for the students. An exploratory examination indicated that students who had no prior experience working with disabilities possessed less positive attitudes toward individuals with disabilities, and these attitudes are modifiable with exposure to graduate training protocols. The results of the study reveal that successful matriculation through an identified rehabilitation counseling program facilitates better attitudes among counselors-in-training within the context and limitations of the present study.

Keywords: attitudes toward disability, rehabilitation counselor education, distance learners, pretest, posttest

Negative attitudes present significant challenges that prevent individuals with disabilities from achieving rehabilitation goals, hinder their inclusion in society, and allow impairments to become handicaps (Antonak & Livneh, 2000; Chan, Tarvydas, Blalock, Strauser, & Atkins, 2009; Vilchinsky & Findler, 2004). Furthermore, negative attitudes toward disabilities lead to poor access to public services; few opportunities for a broad range of human endeavors (Gordon, Feldman, Tantillo, & Perrone, 2004; Hergenrather & Rhodes, 2007; Martin, Rowell, Reid, Marks, & Reddihough, 2005; Palmer, Redinius, & Tervo, 2000); may influence service professionals' interpersonal relationships, quality of care, service delivery, and allocation of resources (Martin et al., 2005; Palmer et al., 2000); and can even have a detrimental effect on quality of life (Aggarwal, 2012). For these reasons, the study of attitudes toward disability continues to be an important research topic in rehabilita-

tion counseling (Bodwin & Orange, 2002; Chen, Brodwin, Cardoso, & Chan, 2002; Parashar, Chan, & Leirer, 2004; Rosenthal, Chan, & Livneh, 2006; Wang, Thomas, Chan, & Chieng, 2003; Wong, Chan, Cardoso, Lam, & Miller, 2004). Exploration of attitudes toward individuals with disabilities held by rehabilitation counseling trainees is important because these professionals' negative attitudes have the potential to affect the quality of services they provide as well as interfere with rehabilitation outcomes (Brodwin & Orange, 2002; Rosenthal et al., 2006).

Rehabilitation professionals, similar to the general population, are probable to be affected by negative societal attitudes toward individuals with disabilities (Cook, 1998; Rosenthal & Berven, 1999). It is important for rehabilitation counselors to better understand the effect of negative attitudes toward individuals with disabilities in order for them to develop appropriate interventions and programs that can be

used by stakeholders to change negative attitudes toward the individuals they serve (Antonak & Livneh, 2000; World Health Organization & World Bank, 2011).

Academic and Clinical Preparation

Specific academic experiences and preparation are necessary to promote positive attitudes. For example, training programs can help students learn about disabilities and to develop positive attitudes through class discussions, lectures, role-plays, and experiential learning (Sahin & Akyol, 2010). For example, rehabilitation majors who had received clinical training had significantly more positive attitudes toward people with disabilities than those without those opportunities (Hunt & Hunt, 2000). Likewise, occupational therapy majors increased their positive attitudes toward disabilities within their first year experience of academic curriculum which consisted of university teaching and clinical placements (Chan, Lee, Yuen, & Chan, 2002).

Yadav, Arya, Kataria, and Balhara (2012) examined the impact of psychiatric training and education on medical students' attitudes toward persons with mental disorders. They found significant differences in attitudes between interns and students from different professional years, such that medical interns were less likely to hold stigmatizing attitudes and were more comfortable in having interactions with those with mental disorders than students with less academic training. The results suggest that an increase in years of education may influence positive attitudes and behaviors.

Regarding short-term training and attitudes, extant literature suggests a positive change in attitudes toward individuals with disabilities when participants are exposed to such training. For example, in a study analyzing the effectiveness of a training intervention for medical students, Martin et al. (2005) found a small but significant positive relationship between training and positive attitudes toward cerebral palsy after watching a video produced to educate people about the disability. In an experimental design, Hunt and Hunt (2004) found that business students who received a presentation regarding persons with disabilities had more positive attitudes than those who did not receive the presentation.

Contact with Disability. Significant positive relationships between contact with people with disabilities and attitudes toward disabilities have been reported in the literature. For example, Choi and Lam (2001) found a significant positive correlation between individuals' prior exposure to a person with a disability and attitudes toward disability among Korean and Korean American students. Miller, Chen, Glover-Graf, and Kranz (2009) found that students

who currently had a relationship with a person with a disability indicated that they were more willing to have relationships with persons with disabilities than those who did not have a current relationship. In a study examining the influence of casual and familial contact with disability on a person's attitude toward disability, Budisch (2004) found that undergraduate students who had more contact with people with disabilities had more positive attitudes toward disabilities than those with less contact. Similarly, in a study of undergraduates from a large university in Southwest U.S., students who indicated that they had more experience with individuals with disabilities also had more positive attitudes about interacting with people with disabilities, more positive general attitudes toward disability, greater sense of comfort with people with disabilities, and less fear about being with people with disabilities than students with less experience with persons with disabilities (Thomas et al., 2003). Tervo, Palmer, and Redinius (2004) found that graduate and undergraduate students in health professions who had a background in disability studies demonstrated more positive attitudes toward disability than did students who did not have such a background. In another study, Meyer et al. (2001) found that students who had interviews with people using wheelchairs had more positive attitudes toward disability than those who did not have such interviews. Tervo et al. (2004) found that health professionals with work experience had higher comfort levels with persons with disability than those with less experience. Hernandez, Keys, and Balcazar, (2004) found that individuals from the private and public sector who had prior work history with people with disabilities, either as employers or as service providers, had more positive attitudes toward the ADA and disability rights than did individuals who had no work experience with this population. Likewise, Herbert (2000) found that therapeutic program staff with more years of work experience were more comfortable when working in programs for persons with disabilities than those with less experience.

The review of the literature did not yield longitudinal studies on attitudes toward people with disabilities among students in rehabilitation counselor programs. The closest study was a pre-post study of nursing students' attitudes toward individuals with disabilities which revealed significantly more positive attitudes at the completion of their senior year (Thompson, Emrich, & Moore, 2003). As such, this study will address this important, but largely unexplored, issue, with applications towards rehabilitation counselor education, and broader implications towards reduction of negative attitudes towards persons with disabilities.

Purpose of the Study

The purpose of the present study was to determine the extent to which a two-year master's program in rehabilitation counselor was associated with change in master's level students' attitudes toward disability at a Southwest University in the U.S.

The study sought to answer the following three research questions.

1. Is there change from pretest to posttest in attitude scores among masters' level rehabilitation counselor education students as measured by the Modified Issues in Disability Scale (MIDS)?
2. Is there a difference in attitude change among on campus and distance education learners in a counselor education program?
3. Is there a difference in attitude change among employment status groups (i.e., working with persons with disabilities and not working with persons with disabilities) in a counselor education program?

Method

Participants

The participants were students completing a two-year masters' program in rehabilitation counselor education at large university in the Southwestern U.S. The program entailed coursework in disability and a clinical placement at an agency that provided services to individuals with disability. There were 101 complete pretest surveys and, of these, only 53 had complete posttest data. Only those with complete data both at pretest and posttest were included in the study. The average age of participants was 46.6 years ($SD = 11.72$) ranging from 28 to 69 years ($SD = 11.72$). The majority of the participants were female (68%). Regarding racial affiliation, the majority (66%) reported they were White, with others reporting Hispanic (15%), Native Americans (6%), Asian (6%), Black (4%), and other races (4%). The majority (66%) of participants indicated they did not have a disability. Fifty-three percent said they were in a marriage relationship, while 42% indicated they were single. Four percent were in other relationships, while one participant did not answer this question. Regarding employment, the majority (72%) indicated they were working with individuals with disabilities while 26% indicated they were not working with these individuals. Two percent did not answer this question.

Data Collection Instruments

Demographic data. A demographic questionnaire was developed to measure participants' personal and contextual variables such as age, gender, race, enroll-

ment type (i.e., on-campus or distance), disability status, marital status, work, and employment (i.e., whether working individuals with disabilities).

The Modified Issues in Disability Scale (MIDS) (Makas, 1991). The MIDS utilizes a Likert-type scale in which subjects are asked to indicate their extent of agreement/disagreement with 37 statements about persons with physical disabilities. MIDS responses range from 1 = strongly disagree to 7 = strongly agree, where 4 is an indication that the participant does not know or has no opinion. The MIDS scale ranges from 37 (least positive) to 259 (most positive). This scale was chosen because of administration ease and its tested reliability and has strong content validity. Analyses of responses to the MIDS of 305 undergraduate students (170 females, 135 males) yielded a Cronbach alpha of .79. Two predicted differences existed that support the MIDS's construct validity: females scored significantly higher ($M = 167.31$) than males ($M = 161.03$), $F(1, 303) = 7.65$, $p < .01$; and subjects with greater personal contact with individuals with disabilities scored significantly higher than participants with less personal contact, $F(4, 300) = 3.54$, $p < .01$. Furthermore, the MIDS's criterion validity was supported by a significant correlation between MIDS scores and scores on Yuker & Block's (1986) Attitudes Toward Disabled Persons scale, the ATDP ($r = .78$, $p < .001$) in a subsample of 225 subjects who had completed both measures. The MIDS differs from similar measures in that the item selection relied heavily on input from people with disabilities (Makas, 1991).

Procedures

The study received approval from the Institutional Review Board at the University, and participants provided consent by reading and signing the informed consent form developed by the institution. Pre-test data were collected by a graduate assistant at the beginning class, usually in the fall semester during orientation. Post-test data were collected at the end of the two-year sequence of classes during the last day of on campus class. Data were collected in a span of six years beginning Fall 2002 and ending Fall 2008.

Data Analysis

Data processing was undertaken to edit, code, and tabulate data in preparation for statistical analysis using the Statistical Package for Social Sciences (SPSS). Descriptive statistics (frequency distributions, means, and standard deviations) were computed for demographic variables. Significance level was set at $p < .05$. Average attitude scores were normally distributed based on the Shapiro-Wilk test. Cronbach's alpha was .82 across items on the MIDS instrument. Instrument internal consistency reliability indices of 0.70 or greater are considered adequate

(Armstrong & Swartzman, 1999; De Vaus, 2002). Therefore, adequate reliability for the MIDS was established for present study. The Paired sample *t*-test was used to establish the general change of attitudes between pre-test and post-test. A mixed-model analysis of variance (ANOVA) was conducted to examine the change in the participants' attitudes, as measured by the (MIDS), and any possible differences in attitude change between on-campus and distance learners.

Results

Research Question 1: Is there a change from pretest to posttest in attitudes scores among masters' level rehabilitation counselor education students?

The results indicated there was a significant increase in scores for attitudes from pretest ($M=201.16$, $SD=19.34$) to posttest ($M=207.81$, $SD=17.82$), $t(52)=-2.802$, $p=0.007$ using paired sample *t*-test. Students' attitudes increased slightly in the course of their matriculation through the two-year sequence of study.

Research Question 2: Is there a difference in attitude change among on campus and distance education learners in a counselor education program?

A mixed-model ANOVA utilized a within-subjects factor of training (pretest and posttest) and between-subjects factor of group (on-campus versus distance learn-

ers). There was a significant main effect of training (pretest and posttest) at $F(1,51)=9.25$, $p<.05$, partial $\eta^2=.15$. The observed power was .85. There was no significant main effect of group and the group-by-training interaction was not significant. The lack of an interaction effect indicates that both on-campus and distance learners followed a similar pattern of change in attitudes from pretest to posttest (see Figure 1). The distance learners (i.e., those with experience working with individuals with disability) with higher scores ($M=205.78$, $SD=18.96$) in comparison to on-campus learners ($M=194.14$, $SD=18.16$). Both groups reported higher mean scores following the training. The mean score of the distance learners reported a posttest score was 209.88 ($SD=14.96$) while the on-campus learners reached 204.67 ($SD=21.48$). It is important to note that the initial scores for both groups were relatively high considering the highest possible MIDS score was 259. Homogeneity of variance was the only ANOVA assumption violated, but ANOVA is robust to violations of this assumption.

Research Question 3: Is there a difference in change in attitudes among employment status groups (i.e., working with persons with disabilities and not working with persons with disabilities) in a counselor education program?

As indicated earlier, the majority (72%) of participants worked with individuals with disabilities. Because of insufficient sample size for individuals not working with people with disability, the effect of working with people with disability was not investigated through inferential statistics. Nevertheless, an

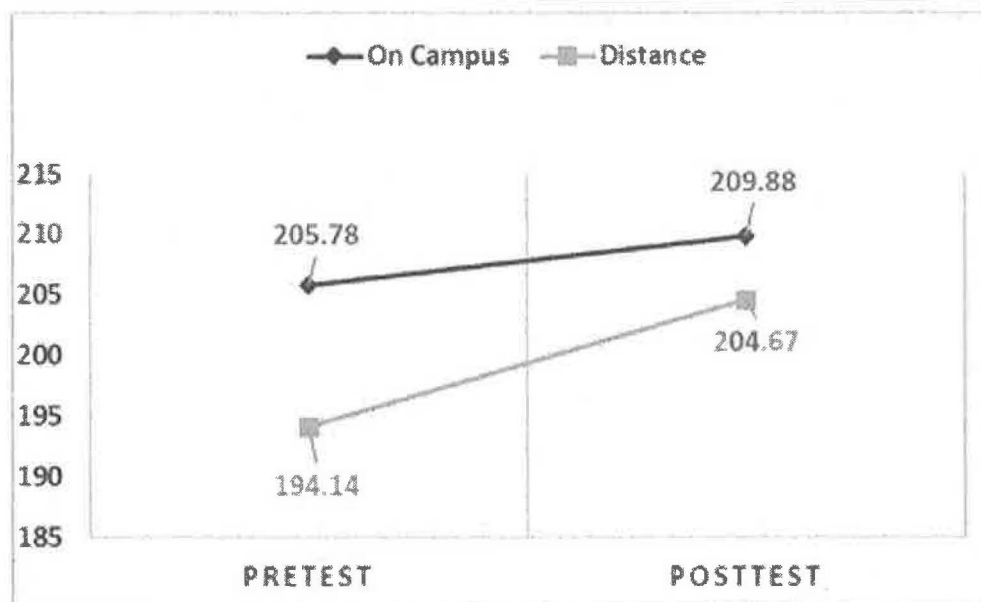


Figure 1. Mean MIDS Pretest and Posttest Scores Reported by On-Campus and Distance Learners

exploratory examination of mean scores showed that participants who did not work with people with disabilities had less positive attitudes at the beginning of the training ($M=192.00$, $SD=19.40$) in comparison to participants who worked with people with disabilities ($M=204.13$, $SD=19.17$). Upon completion of the training the average score of the participants who did not work with people with disabilities prior to entering training increased to 204.36 ($SD=17.97$). The average posttest of participants who worked with people with disability was 208.92 ($SD=17.77$).

Discussion

Students' attitudes towards disabilities improved significantly in the course of their matriculation through the two-year rehabilitation counseling masters' program. These findings are consistent with those of Thompson et al. (2003) who found that nursing students' attitudes toward disability improved at the completion of their senior year. The findings also validate studies that have shown that participation in academic programs can improve students' positive attitudes (Chan, Lee, Yuen, & Chan, 2002; Hunt & Hunt, 2000; Sahin & Akyol, 2010; Yadav, Arya, Kataria, and Balhara, 2012). Furthermore, based on these findings we might infer that experience in disability through participating in a training intervention (Martin et al., 2005) or by taking part in a presentation about disabilities (Hunt & Hunt, 2004) serves to enhance positive attitudes among participants. Although the participants' attitudes were positive when they entered the program, they graduated with more positive attitudes. We might infer that students' learning experiences throughout the program helped them mature in the manner in which they viewed individuals with disabilities. In other words, successful matriculation through the rehabilitation counseling program might help inculcate positive attitudes among rehabilitation counselor education students. This is important because counselors' positive attitudes toward individuals with disabilities are directly related to positive client outcomes (Garske & Thomas, 1992). Furthermore, positive attitudes communicate acceptance, a critical component for successful intervention outcomes (Herbert, 2000).

Both on-campus and distance learners followed a similar pattern of change in attitudes from pretest to posttest. The distance learners started with higher scores in comparison to the on-campus learners. Both groups reported higher mean scores following the training than they did prior to the training. These findings are consistent with researchers who have reported no significant differences between the two in terms of academic performance (Carey, 2001; Dell, Low, & Wilker, 2010; Johnson et al., 2000; Kekkonen-Moneta, 2000; Stizmann, Kraiger, Stewart & Wisher, 2006). These findings might be interpreted

to mean that both groups of students benefited equally throughout their matriculation in terms of acquisition of positive attitudes toward individuals with disabilities.

There is evidence that rehabilitation majors may have more positive attitudes than people from other areas of academic focus (Hunt & Hunt, 2000; Miller et al., 2009), which is consistent with the generally high initial attitudes we observed. In the present study, attitudes of rehabilitation counselor education students who were working with individuals with disabilities and those not working with this population were compared. However, because most participants were working with this population at the time of the study, the effect of working with people with disability was not investigated through inferential statistics. Nevertheless, an exploratory examination of mean scores showed that at the beginning of the training, participants who did not work with people with disabilities had less positive attitudes compared to participants who worked with people with disabilities, and upon completion of the training both groups' attitudes increased.

Implications for Education

The attitudes of rehabilitation counseling students increased as they matriculated through the two-year sequence of study. Furthermore, attitudes for both on campus students and distance education students (i.e., those with experience working with individuals with disability) increased from pretest to posttest. From these results, we infer that education influenced attitudes for both groups consistent with the literature cited elsewhere in the text. The aim of the rehabilitation counseling program is to train qualified rehabilitation counselors, and that training seems to have had a positive influence on their attitudes toward persons with disability. The implication of these findings is that the rehabilitation counselor education program fostered an environment for development of positive attitudes towards people with disabilities among the students. Furthermore, students seemed to benefit equally across categories regardless of the type of enrollment. Students entering this masters' rehabilitation program seemed well suited for the program. They entered the program with positive attitudes that improved further at completion of program. These findings are indicative of the role counselor education plays in enhancing positive attitudes toward disability among trainees.

Implications for Practice

Findings from this study have several important implications for practice. First, results indicate that graduates of the rehabilitation counseling program increased their positive attitudes by the time of gradu-

ation. This is important because positive attitudes indicate that counselors have developed acceptance which is an important ingredient of their work (Herbert, 2000). This means that they may be well suited for their work with individuals with disabilities.

Second, results from this study indicate that participants who entered the program as distance education students benefited the same way as did the on campus students. Distance education is quickly becoming a trend in university classroom instruction (Beard, Harper, & Riley, 2004; Collins, Baird, & Hager, 2009) and is altering personnel preparation practices in special education (Collins et al., 2009). However, it has been reported that distance education students might experience some disadvantages compared to on-campus students (Khawaja & Stallman, 2011). For example, on-campus students have easy access to library resources and computer laboratories as well as easier access to student support services and greater opportunities for face-to-face interaction with lecturers and peers (Lebowitz, 1997). However, results from this study indicate counselors' attitudes increased evenly across both groups. Graduates from both types of enrollment seem suitably prepared to work with individuals with disabilities owing to their positive attitudes.

Third, based on exploratory examination, participants who had worked with individuals with disabilities on entrance to the program exhibited more positive attitudes at pretest than those who did not have such experience. Furthermore, their attitudes increased significantly at posttest. The attitude increase could be an indication that their experiences through contact with individuals with disabilities at work may have contributed to the positive attitudes. These findings support the literature regarding positive relationships between contact with people with disabilities and attitudes toward disabilities (Choi & Lam, 2001; Herbert, 2000; Hernandez, Keys, & Balcazar, 2004; Miller, Chen, Glover-Graf, & Kranz, 2009; Tervo, Palmer, & Redinius, 2004; Meyer et al., 2001). Furthermore, the improved posttest test scores for the distance education learners could be an indication that even those counselors in the field who possess positive attitudes can improve with academic training.

Future Research

Future longitudinal research in this area should aim to broaden the population of study to include more rehabilitation education programs to understand change in attitudes over time. Participants who were already working with individuals with disabilities seemed to possess positive attitudes compared to those who did not work with this population at the beginning of their education. It might be inferred that prior contact with individuals with disability through work might have influenced their positive attitudes. Further studies with more people in both groups is

warranted to unravel the reasons behind the positive attitudes observed among these types of participants. Finally, there is need for research that will follow students into the workplace to evaluate how training impacts attitudes post education.

Limitations

The present study was completed at a single institution of learning in the Southwest U.S. and results may not be generalizable to other institutions of learning. Furthermore, in longitudinal studies such as the present study, many of changes take place within an individual between pretest and posttest due to life and work experiences. This might have affected individuals' responses, a situation that makes it difficult to pinpoint causality. Because of attrition, many participants who participated during pretests could not be found to complete posttests, which partially explains why there were fewer posttest surveys completed compared to those completed during pretest. Also, since no measure of social desirability was used, there is no way to know the extent that social responding influenced the results. Finally, although the authors infer that the rehabilitation program training was responsible for the changes in attitudes, since there is matched sample from other types of majors, other factors such as maturity and more contact with persons with disability might have contributed to the attitudes changes observed in the findings.

Conclusion

Results from the present study revealed a significant increase in attitudes among counselors in training from pretest to posttest. Although their attitudes were high when they entered the program, those attitudes increased exponentially by the time the students graduated. Furthermore, students' attitudes increased across the board between traditional and distance learners revealing that both types of enrollment were suitable for the students. Finally, exploratory examination indicated that students who had no experience working with disabilities possessed less positive attitudes toward individuals with disabilities. This might confirm past research that contact with disability increases positive attitudes.

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