What affects the attitudes of college students toward people with disabilities?

By: Andrea Schanz
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An Honors Thesis (HONRS 499)

By

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Abstract

People living with one or more disability in the United States make up almost one-fifth of our population (Waldrop & Stern, 2003). Furthermore, because two-thirds of the people living with a disability are between the ages of 16 and 64, policies and programs have been put into place to protect disabled people in the workforce, in public places, and in educational settings (Waldrop & Stern, 2003). Many of these programs and policies are in the beginning stages of implementation, so it is necessary to assess how people without disabilities are reacting to them and the people they serve to help. Social work majors are taught about individual empowerment and equality, and this leads to the research question of *Are social work majors more comfortable being around and working with people with disabilities?*
Acknowledgements

I would first and foremost like to thank Dr. Greta Yoder Slater for all of the hard work, time, and dedication she put into helping me with this thesis and making sure everything was perfect. There was absolutely no way I could have completed this project without her, and I am very grateful.

I would also like to thank the other professors in the Department of Social Work, because without their love, compassion, and dedication to both the social work field and teaching their students I would not have come this far in my career.

Lastly, I would like to thank my father, David Schanz, for being so supportive of me during my four years at Ball State University, and for continuing to push me to live up to my potential.

Thank you, from the bottom of my heart.
The World Health Organization defines a disability as “an umbrella term, covering impairments, activity limitations, and participation restriction” (World Health Organization, 2009). The United States Census Bureau found there to be 49.7 million people with disabilities living in the United States (Waldrop & Stern, 2003). This is 19.3% of the United States population, or about one-fifth (Waldrop & Stern, 2003). Sixty-seven percent (two-thirds) of the people who have disabilities in the U.S. are between the ages of 16 and 64; additionally, 52% of disabled people between 16 and 64 years of age are male (Waldrop & Stern, 2003). Waldrop & Stern (2003) also report findings that state people who were Black, American Indian, and/or Alaskan Native reported the highest prevalence of disabilities.

The U.S. Census Bureau found that the majority of people with disabilities live in the Southern United States (two-fifths), and that the state with the highest number of people living with a disability is West Virginia (Waldrop & Stern, 2003). Waldrop & Stern (2003) theorize this may have to something to do with the obesity rates in that state. Locally, there are 600 students attending Ball State University, which is approximately 3.4% of the population of
students (Reust, 2009).

**Background**

According to Cohn (2002), one in 12 children and teenagers has a mental or physical disability, which is equivalent to about 5.2 million people. The research also shows that the number of children and teenagers characterized as “disabled” are steadily rising, meaning it is necessary to address this social problem (Cohn, 2002). There are currently many policies in place in the United States, such as the Americans with Disabilities Act of 1992, which offer support against discrimination toward the disabled community. However, it is not clearly understood how other people feel, think, and behave toward this population. Children and teenagers with disabilities are more often than not students in schools, which means the attitudes of the teachers, administrators, and peers in the schools need to be addressed to provide an equal opportunity for learning as everyone else.

Since one-fifth of the population is characterized as disabled, measures have been taken over the past 40 to 50 years in the United States to provide as much aid as possible to this population (Waldrop & Stern, 2003). Special policies and regulations have also been put into place to prevent discrimination against this population of disabled people in such areas as the workplace. Unfortunately, however, discrimination, oppression, and bias against this population are still reported by peers, employers, co-workers, and school corporations around the country. Many researchers have taken an interest in assessing the attitudes of these different groups toward people with disabilities. There have been many studies in which researchers have distributed attitude surveys and questionnaires to student peers, co-workers, and employers of people with disabilities in order to assess any biases or discrimination against them.

One of the problems with attitude surveys and questionnaires is that respondents have a
tendency to respond in a way that shows them in a favorable fashion, which may not necessarily reflect their true opinions and beliefs; this theory is called socially desirable responding (van de Mortel, 2008). In an effort to prevent skewed results from respondents who may be using socially desirable responding (SPR), several social desirability (SD) scales were developed to use when analyzing survey findings (van de Mortel, 2008). One of the most common SD scales used to assess attitudes toward people with disabilities specifically is the Chedoke-McMaster Attitudes Towards Children with Handicaps (CATCH) scale (Vignes, et al., 2009). Despite the intentions of these scales, van de Mortel (2008) discovered by studying the results of over 14,000 attitude questionnaires distributed in the years 2004 and 2005 that 43% of the surveys that used SD scales showed that SDR had influenced the results.

Vignes, et al. (2009) conducted a quantitative study with adolescents to assess their attitudes toward their peers in school with disabilities. The researchers used the CATCH scale to measure their attitudes using three dimensions of attitudes: affective, behavioral, and cognitive. The sample for this study included 1135 adolescents between the ages of 10 and 15, who were from 12 different secondary schools, six of which had special education programs in them. The CATCH scale was given to the students and results were counted, and the researchers also took note whether the attitudes about other students with disabilities changed based on the sex/gender and health of the respondents and whether or not they knew of or were friends with a person with disabilities.

The researchers found that based upon the scores of the CATCH scale, which is measures using a points-system, adolescents’ attitudes toward other students with disabilities were generally negative. The researcher’s findings also showed that more positive attitudes toward disabled peers occurred more often when the respondent was female, was in good health, and
was friends with a person with a disability. These findings correlate with the results of project author Andrea Schanz’s meta-analysis, which also showed that students who knew someone with a disability reported feeling more comfortable with disabled people.

The biggest limitation to the study was that the researchers did not assess whether the attitudes of the adolescents toward peers with disabilities changed with age. In order to show an adequate assessment of how attitudes are reflected by the age of the respondents, the researchers could have used a separate sample of younger children in a longitudinal study. Other than those, there were numerous strengths to the study by Vignes, et al. (2009). One of the strengths was the size of the sample. Over one thousand students were studied, which allowed for a lot of different viewpoints to be assessed in the study. Also, students were surveyed in both schools with special education programs and without, which allowed for interesting comparisons about whether or not that affected the students’ attitudes toward their disabled peers. Another strength in the study was that the population sample surveyed was aged 10-15 years, which decreased the probability of the respondents using SDR. Young adolescents are usually still developing and fine-tuning their own beliefs and morals, which means that they most likely answered the survey questions based upon personal experience. They may lack the knowledge and understanding yet of what it means to be “socially desirable.” It was then very interesting to discover that in general, the adolescents had negative attitudes about their peers with disabilities regardless whether or not their schools had special education programs.

Barr & Bracchitta (2008) conducted also conducted a quantitative study regarding the attitudes of college-aged students toward people with disabilities. The main purpose of the study was to assess whether or not having previous contact with people with disabilities caused students to have more positive attitudes about disabled people than students who had not been in
close contact with disabled people. The researchers hypothesized that the more contact a student had with a person with disabilities, the more positive his or her attitude would be about disabled people. The researchers further hypothesized that the majority of the students with positive attitudes toward people with disabilities would be education majors in school.

There were 211 undergraduate students from two different schools who participated in the study. One hundred seventy-one of the respondents were women, and 40 were men who ranged in age between 18 and 21. Of the participants, 102 were freshman, 81 were sophomores, and 28 were juniors at their colleges. One hundred forty of the respondents were education majors and 71 were not. The participants were given the Scale of Attitudes toward Disabled Persons (SADP) scale, which uses a scale from 1 ("I disagree very much") to 6 ("I agree very much") (Barr & Bracchitta, 2008). To analyze the data, the researchers used three subscales associate with the SADP, which were Optimism, Misconceptions, and Hopelessness. These subsystems measure the attitudes of the respondents of their negative and positive attitudes toward people with disabilities, as well as any biases and misconceptions. The researchers also asked respondents to specify whether or not they had previously been in close contact with a person with a disability, and if so, for what length of time.

Based on the data, there was no significant difference in whether or not a person had contact with disabled people based on their genders, which schools they attended, or the type of disability they came in contact with (physical, behavioral, or intellectual). Juniors had the most previous contact with people with disabilities, and men ranked higher than women in both the Hopelessness and Misconceptions subsystems. Based on the data, students who had previous contact with people with disabilities ranked higher than those who had no contact in the Optimism subsystem, and they also reported more positive attitudes toward them. The research
also suggested that, based on the data, being an education major in school positively correlated with low scores in the Hopelessness and Misconceptions subsystems.

There were some limitations to the study. The first limitation is that there was a much larger number of women surveyed than men, which may have skewed the data based upon gender difference. However, this limitation may have been unavoidable because the majority of education majors are women. Another limitation to the study was that the researchers did not establish any standard measure of what is considered “contact” with a person with a disability. This left the questions regarding previous contact with disabled people subject to the respondents’ interpretations. Another limitation of the study is that it measures the attitudes of students toward disabled people in regards to whether or not they were education majors. This criterion limits the sample size, and may not reflect the views of many other students in that cohort.

There were also many strengths of the study. One strength was that a survey specifically designed to use to assess attitudes toward people with disabilities was used consistently with all respondents. This allowed the researchers to gather consistent information in order to either accept or reject their hypotheses. Another strength of the study was that the survey measured Optimism about disabled people as part of the respondents’ attitudes, so the researchers were able to see whether or not students who had not been in contact with disabled people were still optimistic about maintaining positive attitudes toward them.

A qualitative study was conducted by Stowe et al., (2007). The study was conducted to assess attitudes of people with disabilities toward genetic research about “curing” disabilities, and the attitudes of society that caused such a suggestion. The researchers chose to conduct a qualitative study because they wanted to identify concerns that were general beliefs throughout
the whole community of people with disabilities, rather than beliefs specific to a particular
disability. The researchers also wanted to provide different perspectives about the topic in order
to improve social advocacy for the population of disabled people.

The researchers used a participatory action research (PAR) committee to survey the
disabled community, which was made up of three disability advocacy leaders, three people who
either had a personal disability or were parents of a child with a disability, and four people who
were knowledgeable about the genetic aspect of the research. The PAR used three qualitative
methods of inquiring information: multivocal synthesis, focus groups, and interviews. The
multivocal synthesis portion focused on the research and studies about the subject; the focus
groups were made up of 6-12 people who were grassroots members of the disabled community,
and the groups were held in 11 different rural and urban areas; and the interviews were held with
10 key informants who were active state and national leaders in the disabled community.

The study had many interesting results. Participants in the focus groups and interviews
talked a lot about the lack of understanding and experience that most people have regarding the
disabled population, and they attribute that part of the cause of society’s general negative
attitudes toward the disabled population. Many participants indicated that having a disability
means that there will always be suffering, and because of that the rest of society who is healthy
will never be able to truly relate. The majority of the participants believed that there is still a lot
of prejudice against, negative stereotypes about, and a negative stigma regarding people with
disabilities.

One of the limitations of the study is that the majority of the PAR committee had a
personal disability or worked closely to advocate for that population, which means that there
may have been some bias when asking questions during the focus groups and interviews. The
people in the PAR committee almost certainly have their own beliefs regarding attitudes toward people with disabilities, so they may have subconsciously formatted their questions with those biases. A major strength of the study is the number of people surveyed, and the variety of topics discussed in the focus groups and interviews. Data were collected about a wide range of themes and topics, all of which will be beneficial for professionals working with the disabled population to read about and learn.

Methods

The purpose of this study was to discover the attitudes that college students have toward people with disabilities. A meta-analysis was conducted to answer the research question. Data were collected using the following databases: Academic Search Premier, CINAHL, E-journals, ERIC, Health Source Nursing Academic Edition, Medline, PsychInfo, Psychlit, Military, Governmental Collections, and JSTOR. The keywords searched included: disabilities, cognitive impairments, schizophrenia, bipolar, physical disabilities, mental disabilities, Down’s syndrome, attitudes, college students, social work, psychology, nursing, education, medical students. Studies done between 1984 and 2010 which were written in English were included. The reference lists of retrieved articles were also searched for articles that were missed in the search process. Qualitative studies were excluded and only experimental and quasi-experimental designs were included in the sample. To be included in the study, comparison groups or control groups were required. The samples were all college students (either undergraduate, graduate, or medical students) in one of the helping professions: social work, psychology, nursing, education, and medicine.

There were 26 studies that initially met the search criteria, but nine were eliminated for numerous reasons. Three studies were excluded because they included both students and
working professionals who had already earned their degree. One study was excluded because the professional backgrounds of the respondents were not identified. Two studies were excluded because they did not include enough detail to allow for group comparisons, and two additional studies were excluded because the respondents were adolescents rather than college students. One final study was excluded because the outcomes measured were not closely enough related to the present study. The final analysis included 17 studies; two which directly compared social work students and another discipline, four that included only social work students, and 11 that included students from other helping professions. The research question guiding the study was as follows: What differences exist between social work and non-social work majors regarding people with disabilities?

The following hypotheses were tested:

- **H₁**: Social work students have more positive attitudes toward people with disabilities than other helping professions.

- **H₂**: Social work students will have significantly more contact with people with disabilities than non-social work students.

- **H₃**: Published studies involving social work students will have a lower mean effect than studies involving other helping professionals due to their prior experience with people with disabilities (and therefore smaller effect of the intervention on their attitude improvement).

These hypotheses were based on the principles of the National Association of Social Workers (NASW) Code of Ethics (National Association of Social Workers, 1999) value of non-judgmental acceptance of all people and the ethical commitment to "help meet the basic human needs of all people, with particular attention to the needs and empowerment of people who are
vulnerable, oppressed, and living in poverty” (p. 1). Another important place that disability is emphasized is through the Council on Social Work Education’s Educational Policy and Accreditation Standards (EPAS) (CSWE, 2008). CSWE is the accrediting body in social work that mandates the curricular standards for social work training at the undergraduate and graduate levels. Disability is one of the recognized groups given particular attention in the policy regarding respect for diversity, “… commitment to diversity—including age, class, color, culture, disability, ethnicity, gender, gender identity and expression, immigration status, political ideology, race, religion, sex, and sexual orientation (pp. 10-11).” An important purpose of the present study is to analyze whether social workers are more comfortable and accepting of people with disabilities which is essential for treating this population with respect and worth of every person.

While selecting studies for the meta-analysis, it is important to assess the credibility of each study in order to use the most reliable data possible. Six points in quality were used to measure the credibility of each of the 17 studies used in the meta-analysis; each study was rated either “yes” or “no” based on the following six points: used randomized design, effect size reported, less than 10 subjects per group, group differences, rigorous analysis, and reported reliability. Studies that use randomized design offer a sample that is a more accurate representation of the population being researched, thereby increasing the study’s reliability. It is beneficial to use a study that reports an effect size in order to prevent the possibility of using different outcomes derived from the same data. The studies which used less than 10 subjects per group offered a more in-depth look at the sample and usually able to gather more data. Having group differences in a study is also beneficial because the sample sizes are more random, increasing the credibility of the study. A rigorous analysis of a study in an article is also very
important because without a thorough analysis, some of the reported data may be discredited. Reported reliability is another important factor when determining a study’s credibility, because without reported reliability based upon the other five factors as well as other professionals, the entire study may be discredited and useless. Studies were coded and entered in SPSS 16.0 Student Edition. Effect sizes were calculated for all studies. All data were entered in SPSS 16.0 and descriptive statistics were calculated. One-way ANOVA tests were used to compare group differences between social work and other majors.

Results

Of the 17 total studies used in the meta-analysis, 29.4% used data from social work students (N=5), 17.5% used data collected from nursing students (N=3), 23.5% used data collected from education majors (N=4), 23.5% used data from students majoring in medicine (N=2), and the rest of the studies (17.6%) used data from mixed samples of students (N=3). Table 1 shows the distribution of the studies by level of education. Table 2 shows the educational levels of the studies included in the analysis. Four of the studies used data solely from undergraduate students (23.5%), 11.8% of the studies used data solely from graduate or doctoral students (N=2), and the remaining 64.7% used a mixed sample of data from undergraduate, graduate, and doctoral students (N=11). Some studies included in the meta-analysis used interventions and some did not. Table 3 shows the distribution of studies by intervention type. Of the 17 studies, six used a didactic (lecture-type) intervention (35.3%), one used an experiential intervention, two used a combination of both didactic and experiential interventions, and nearly half (47.1%) had no intervention (n=8) and they simply compared different groups.

The quality of the 17 studies used in the meta-analysis was assessed according to the
following six criteria those with higher quality more weight in the analysis: randomization, having sample sizes that included more than 10 subjects per group, effect size was reported, examining (and controlling for) group differences, rigorous analyses, and reported reliability of their measurement tools (and analyzing their sample for reliability). Tables 4-9 show the distributions of each of the six quality criteria used in the quality index. Of the 17 studies, 11.8% used randomized design (N=2) while the other 88.2% did not (N=15). Only 23.5% of the studies reported an effect size (N=4), while the 76.5% of others did not (N=13). The vast majority of the studies, 94.1%, used less than 10 subjects per group (N=15) while only one study (5.9%) did not (N=1). When looking to see if the studies used group differences, 35.3% were found to have done so (N=6) and 64.7% were found to have not done so (N=11). Slightly over half of the studies, 52.9%, reported using rigorous analysis (N=9), while the other 47.1% did not (N=8). Lastly, 58.8% of the studies contained reported reliability (N=10) while the other 41.2% did not (N=7). Table 2 shows the results of each of the six points of quality for credibility.

These data supported several of the hypotheses, but not completely. There was some evidence to support the hypothesis that social work students have more positive attitudes than students from other disciplines toward people with disabilities. Two studies directly compared social work students with students from other disciplines. Both studies found social workers to have significantly more positive attitudes toward people with disabilities. Schwartz and Armony-Sivan (2001) found an effect $r = .922$ and Au and Man (2006) found an effect $r = .248$. The average effect size for studies comparing social work and other helping professions directly was $r = .585$. This is a strong effect and the studies used in this portion of the analysis were rigorous (Schwartz & Armony-Sivan’s quality rating was .833; Au & Man’s rating was .700). These two studies had the highest quality ratings of all 17 studies and the evidence strongly
suggests that social workers have more positive attitudes toward people with disabilities.

The ANOVA comparing differences between the mean effect for social work studies and the other disciplines found that, although social work studies did have a lower mean effect than studies in the other disciplines, these differences were not significant \((F_{3,8} = 1.177, p = .378)\).

The mean effect in the social work articles \((n=2)\) was \(r = .247\), nursing \((n=3)\) \(r = .4089\), education \((n=2)\) \(r = .519\), medicine \((n=2)\) \(r = .530\). Medicine was the group of studies with the largest mean effects \((r = .530)\).

The ANOVA comparing group differences between social work studies and studies conducted with other helping professional samples did not support the hypothesis that social workers were more likely to have had more contact with disabled people. Table II shows the descriptive statistics for the group comparisons regarding the percentage of the sample that had prior contact with disabled people. The mean percentage of sample who had prior contact with disabled people in the social work articles \((n=2)\) was \(r = .766\) (SD = .235), nursing \((n=3)\) \(r = .449\) (SD = .500), education \((n=2)\) \(r = .306\) (SD = .039), medicine \((n=2)\) \(r = .862\) (SD = .195), and mixed sample studies \((n=4)\) \(r = .554\) (SD = .121). The homogeneity of variance assumption was not violated and there were not significant differences found in ANOVA analysis or pairwise comparisons \((F_{4,8} = 1.405, p = .315)\).

**Discussion**

Results from the meta-analysis showed that for the studies directly comparing social work students and students from other professions, social workers had more positive attitudes toward people with disabilities. The studies that directly compared social work students and non-social work students both found significantly more positive attitudes by social work majors than non-social work majors. The average effect size was .585, which is a significant effect. These
results are supported by the literature, which suggests that social work students and professional social workers are more comfortable interacting with people with disabilities because they are taught person-centered and strengths-based interventions when working with this population (Galambos, 2004). Other literature supports this hypothesis by suggesting that the more knowledge and understanding one has about a population, the more comfortable he or she will be interacting with them (Evans, 2008).

Results from the meta-analysis also showed that, on average, social work students had more contact with disabled people than non-social work students. Social work students and medical students had the highest percentage of their respective samples having contact with disabled people. Studies involving social work students reported an average of 76.7% of their samples had prior contact with disabled people and 86.2% of medical students had prior contact with disabled people.

The final hypothesis was that social work studies would have a lower mean effect of the intervention (aimed at improving attitudes) than would studies from other helping professions. This was based on the idea that because social work students were likely to have more contact with people with disabilities, their attitudes would have “less room for growth” so to speak. Another reason the mean effect was hypothesized to be lower than other professions is due to the Social Work Code of Ethics that actively supports diversity and differences. Finally, the mean effect was hypothesized to be lower in social work than other professions because of the recognition of disabilities as one of the emphasized areas of cultural competence by the Council on Social Work Education (CSWE)'s Educational Policy and Accreditation Standards (EPAS, 2008). The mean effect was

**Limitations and implications**
There were some important limitations for meta-analyses and integrative reviews. Chambers (2004) lists four key limitations for meta-analyses that are relevant for the present study. The first limitation for meta-analyses is called the comparison of “apples to oranges,” meaning that it is difficult to compare two studies that are using two different research techniques, because there is usually no connection between them (Chambers, 2004). The second limitation is that some research studies are just simply not conducted well, and therefore the data may not be credible when used in comparison to other research in a meta-analysis (Chambers, 2004). The third limitation of meta-analyses is that the majority of the studies that actually get published in journals show significant positive results (Chambers, 2004). Because there may be other studies that show differing results but may not be published because they are not significant, the actual published articles may create research bias regarding the topic. The fourth limitation is the fact that multiple findings are reported from the same study, which may also potentially cause bias toward the topic (Chambers, 2004).

In addition to these four main limitations for meta-analytic methods, Chambers (2004) also gave a broader limitation for meta-analyses in general. There are usually a great number of studies done regarding a single topic, but a researcher putting together a meta-analysis only chooses a select number of these studies to work with and analyze. Because only a certain percentage of studies about a particular topic are represented in a meta-analysis, research bias against the topic may occur.

This research will benefit the social work profession by providing information regarding social work students’ attitudes toward people with disabilities. Because it is expected in the social work profession to be non-discriminatory or judgmental, social workers may not realize that they don’t have positive attitudes toward people with disabilities. Studies like this one may
help raise that awareness so that social workers can be prepared and adjust their attitudes accordingly.

The research may also be used in broader literature such as those related to inclusive learning in schools, which is the method of immersing students with disabilities with students without disabilities in schools (Vignes, et al., 2009). Respondents who took the attitude survey stated whether they believed in inclusive learning for students with disabilities. These attitudes could be used to assess the success of such programs in schools.

Summary

Because nearly one-fifth of the population in the United States is disabled and an average of 10% of college students have one or more disabilities, it is important to address the problems associated with this population (Waldrop & Stern, 2003). In order to advocate for this population, one must be aware of the attitudes others have about members of the population. This study comparing attitudes of college students based on their major is helpful for better understanding the role that interventions can play in overcoming attitudinal biases against people with disabilities. Recognizing that there is still discrimination and judgment against the disabled community may help advocates by making them aware that this is something they will have to work around when developing policies and programs and trying to implement them. The study will directly benefit the social work profession because it assessed how social work majors felt about the disabled community versus non-social work majors. Social work professions may look at the results and be able to modify their teachings about this population to promote more positive attitudes toward the population of people with disabilities. They may also use the information to teach acceptance and help non-social work majors become more comfortable with the disabled population, since one of the key findings was that social work majors are more
comfortable working with disabled people than non-social work majors.

The goal and hope of project author Andrea Schanz is that professionals may take her findings and use them in further research about college students' attitudes toward people with disabilities. Because college students are learning and practicing to get ready to go into the workforce, which will consist of almost one-fifth of disabled people, they must be aware of the disabled population and understand how to work with this population, since one of the key findings was that social work majors are more comfortable working with disabled people than non-social work majors.
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*included in meta-analysis
Figures

Figure 1: Formula for Conversion of F-ratio to Effect Size $r$

\[ ES = \sqrt{\frac{F(n_1 + n_2)}{n_1 n_2}} \]

Figure 2: Formula for Conversion of Mean Difference to Effect Size $r$

\[ r = \sqrt{\frac{d^2}{d^2 + \frac{1}{pq}}} \quad p = \frac{n_e}{n_e + n_c} \quad q = 1 - p \]

Figure 3: Formula for Conversion of t-test to Effect Size $r$

\[ ES = t \sqrt{\frac{n_1 + n_2}{n_1 n_2}} \]

Figure 4: Formula for Conversion of Odds-ratio to Effect Size $r$

\[ r_{\cos\pi} = \cos \left( \frac{180^\circ}{\sqrt{\frac{ad}{bc}}} \right) \quad \frac{ad}{bc} \]

where odds ratio is
Tables

Table 1: Distribution of Studies by Profession

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Table 2: Distribution of Studies by Level of Education

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Table 3: Distribution of Intervention Types

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</tr>
<tr>
<td>missing or NA</td>
<td>8</td>
<td>47.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 4: Number of Studies with Randomized Designs

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid yes</td>
<td>2</td>
<td>11.8</td>
<td>11.8</td>
</tr>
<tr>
<td>no</td>
<td>15</td>
<td>88.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 5: Number of Studies with Effect Sizes Reported

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid yes</td>
<td>4</td>
<td>23.5</td>
<td>23.5</td>
</tr>
<tr>
<td>no</td>
<td>13</td>
<td>76.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 6: Number of Studies with Less than 10 Subjects Per Group

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid yes</td>
<td>16</td>
<td>94.1</td>
<td>94.1</td>
</tr>
<tr>
<td>no</td>
<td>1</td>
<td>5.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 7: Number of Studies that Compared Group Differences

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
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<tbody>
<tr>
<td>Valid yes</td>
<td>6</td>
<td>35.3</td>
<td>35.3</td>
</tr>
<tr>
<td>no</td>
<td>11</td>
<td>64.7</td>
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</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### Table 8: Distribution of Studies with Rigorous Analysis Methods

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid yes</td>
<td>9</td>
<td>52.9</td>
<td>52.9</td>
</tr>
<tr>
<td>no</td>
<td>8</td>
<td>47.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 9: Studies Reporting Reliability of Instruments

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>yes</td>
<td>10</td>
<td>58.8</td>
<td>58.8</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>7</td>
<td>41.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 10: Mean Effect Size by Discipline

<table>
<thead>
<tr>
<th>ES overall</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>social work</td>
<td>5</td>
<td>.2466</td>
<td>.10322</td>
<td>.04616</td>
<td>.3748</td>
<td>.12</td>
<td>.36</td>
<td></td>
</tr>
<tr>
<td>nursing</td>
<td>3</td>
<td>.4087</td>
<td>.25821</td>
<td>.14908</td>
<td>.10502</td>
<td>.25</td>
<td>.71</td>
<td></td>
</tr>
<tr>
<td>education</td>
<td>2</td>
<td>.5187</td>
<td>.16380</td>
<td>.11568</td>
<td>.9885</td>
<td>.40</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>medicine</td>
<td>2</td>
<td>.5295</td>
<td>.43911</td>
<td>.31050</td>
<td>.44748</td>
<td>.22</td>
<td>.84</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>.4090</td>
<td>.25864</td>
<td>.06913</td>
<td>.5584</td>
<td>.12</td>
<td>.92</td>
<td></td>
</tr>
</tbody>
</table>
Table 11: Mean Percentage of Contact with Disabled People by Study Discipline

<table>
<thead>
<tr>
<th>percent w/disability contact</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>social work</td>
<td>2</td>
<td>.766000000</td>
<td>.234759451</td>
<td>.166000000</td>
<td>-1.34322999 to 2.87522999</td>
<td>.600000</td>
<td>.932000</td>
</tr>
<tr>
<td>nursing</td>
<td>3</td>
<td>.44866020</td>
<td>.500103892</td>
<td>.288735117</td>
<td>-.79346674 to 1.69118714</td>
<td>.024000</td>
<td>1.000000</td>
</tr>
<tr>
<td>education</td>
<td>2</td>
<td>.30571825</td>
<td>.039048911</td>
<td>.027611750</td>
<td>-.04512230 to .65655880</td>
<td>.278106</td>
<td>.333330</td>
</tr>
<tr>
<td>medicine</td>
<td>2</td>
<td>.86187846</td>
<td>.195333369</td>
<td>.138121550</td>
<td>-.89312224 to 2.61687914</td>
<td>.723757</td>
<td>1.000000</td>
</tr>
<tr>
<td>mixed sample</td>
<td>4</td>
<td>.49644442</td>
<td>.121429036</td>
<td>.060714518</td>
<td>.30322373 to .68966512</td>
<td>.333000</td>
<td>.625000</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>.55381167</td>
<td>.301164679</td>
<td>.083528053</td>
<td>.37181966 to .73580366</td>
<td>.024000</td>
<td>1.000000</td>
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</tbody>
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