

Attitudes of Nursing Faculty towards Nursing Students with Disabilities: An Integrative Review

Janet A. Levey
Marquette University

Abstract

The Americans with Disabilities Act (ADA, 1990) and Americans with Disabilities Act Amendments Act (ADAAA, 2008) provide students with disabilities access to postsecondary institutions and are applicable to nursing education in all learning environments. Nursing faculty members are charged with admitting, educating, and graduating students, with or without disabilities. Since the enactment of ADA and ADAAA, positive and negative attitudes of faculty towards students with disabilities have emerged in nursing literature. This integrative review focuses on the question: "What are nursing faculty's attitudes towards students with disabilities?" The nursing research was rigorously reviewed and analyzed in order to assess nursing faculty's attitudes towards students with disabilities. Themes emerged from an analysis of nine sources in relation to admission, accommodation, and perception of the success of students with disabilities in nursing programs and the nursing profession. Implications, recommendations, and a call for future nursing research were identified.

Keywords: Nursing education, faculty attitudes, nursing students with disabilities

Nearly 707,000 students with a disability attended postsecondary institutions in 2008-2009 (National Center for Education Statistics, 2011) and enrollment is projected to increase secondary to improved screening, legislation, and students' awareness of their rights to equal access through accommodations (National Council on Disability, 2011). There are no available statistics on the number of nursing students with disabilities (NSWD) attending school. However, there are numerous articles and research studies attesting to their attendance in nursing schools that address faculty attitudes and issues surrounding admission, accommodation, academic standards, patient safety, National Council Licensure Examination (NCLEX-RN®) eligibility, and employment of nursing students with disabilities (Aaberg, 2010; Carroll, 2004; Dahl, 2010; Persaud & Leedom, 2002; Rankin, Nayda, Cocks, & Smith, 2010; Sowers & Smith, 2004 a, 2004b). The literature review also found varying degrees of understanding, acceptance and application of ADA laws and requirements amongst nursing faculty. These inconsistencies in attitudes and behaviors of nursing faculty members ranged from the belief that accommodations were not available to the belief that accommodations

were inappropriate by virtue of providing an unfair advantage to students with a disability. The results of some of these beliefs and practices create barriers to students with disabilities from entering, progressing, and graduating into the nursing profession.

An increase in enrollment of students with disabilities is attributed to three key federal statutes created to eliminate discrimination and improve access to postsecondary institutions (Leiker, 2008). Section 504 of the Rehabilitation Act of 1973 (Section 504) (29 U.S.C. § 794) is the first legislation prohibiting postsecondary institutions receiving federal grants, contracts, assistance or government-supported loans from discriminating against individuals based on a disability. The second law is the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C. § 12101), which broadens coverage of anti-discrimination for individuals with disabilities in regards to employment, transportation, public accommodation, telecommunications, public services, and goods. Students with disabilities are covered under these laws since colleges and universities are considered public places and may be financed with government funds (McCleary-Jones, 2005; Newsham, 2008). The ADA stipulates that an

educational institution is mandated to provide “reasonable accommodation” (i.e., alternative ways to learn or demonstrate knowledge) to students who satisfy the requirements for such service unless the institution can prove that providing an accommodation creates “undue burden” (i.e., financial costs). There are a number of interpretations of the meaning of “reasonable accommodation” and “undue burden” in the academic setting. Colleges and universities have a difficult time proving “undue burden” based upon the size of their budgets (Newsham, 2008). Some faculty have expressed the misperception that accommodations can “fundamentally alter” course criteria or program outcomes (Betz, Smith, & Bui, 2012).

The Americans with Disabilities Act Amendments Act of 2008 (ADAAA) (ADAAA, 42 U.S.C. § 12102.2, A) is the latest legislation that significantly impacts postsecondary institutions’ policies and procedures regarding the provision of access for students with disabilities. The ADAAA expands the definition of “qualified disability” by addressing “mitigating measures” which cannot be factored in determining a disability (Leiker, 2008). Examples of “mitigating measures” include prosthetic limbs, hearing aids, mobility devices, and other assistive devices. For a nursing student wearing hearing aids, accommodations are still necessary to ensure access to learning activities and skilled performances (e.g., amplified stethoscope, clear surgical masks to facilitate lip reading). As an outcome of the broadening definition of a disability, more students with disabilities are attending nursing school, intensifying the need for reasonable accommodations and sensitivity to disabilities.

All students applying to colleges and universities must satisfy admission requirements, which vary amongst academic institution (e.g., grade point average, entrance examination scores). Schools of nursing, as well as other schools of healthcare (e.g., medicine, physical therapy) may have additional entrance requirements that a student must meet (Cook, Rumrill, & Tankersley, 2009; McCleary-Jones, 2005; Sin, 2009). Students qualify for the program if they meet the admission criteria or for the student with disabilities, reasonable accommodations are applicable and do not require fundamental alteration of the curriculum (Helms, Jorgensen, & Anderson, 2006; McCleary-Jones, 2005). Students with disabilities are “otherwise qualified” when they meet the same academic requirements as students without disabilities (Brinckerhoff, Shaw, & McGuire, 2002). “Otherwise qualified” also has an expectation that students with disabilities meet all of the coursework, class participation, attendance, and knowledge assessments required to remain eligible for enrollment.

Problem Identification

Students with disabilities have been denied entrance into nursing programs due to the technical standards or essential functions of performance a student must demonstrate (e.g., ambulate independently, perform CPR, able to lift 50 lbs. or squat for 2 minutes) (Aaberg, 2010; Dahl, 2010; Katz, Woods, Cameron, & Miliam, 2004; McCleary-Jones, 2005). Technical standards establish the non-academic requirements a student must have or possess to enter a program of study (Smith, 2008). A well written technical standard statement focuses on the “what,” not “how” of a skill (Smith, 2008). For example, “must be able to gather vitals using a variety of means” instead of “must be able to hear a heart murmur through a stethoscope” (Smith, 2008, p. 1); the focus is on the general, not the specifics of a skill. The essential functions of a nurse for employment are acquired after a program of study is completed, not before. As such, technical standards for a nursing student are not the same as essential functions for a registered professional nurse (Smith, 2008). Sometimes these concepts are misconstrued. Each nursing program establishes its own criteria for students to meet and fulfill from admission to graduation (Helms et al., 2006; Katz et al., 2004; McCleary-Jones, 2005; Sowers & Smith, 2004a, 2004b). Nursing faculty’s attitudes towards technical standards of performance might be linked to traditional ideals based on their own experience in practice (Christensen, 1998; Katz, et al., 2004; McCleary-Jones, 2005; Newsham, 2008; Persaud & Leedom, 2002). For the purpose of this integrative review, the term “attitude” is defined as a value, belief or perception faculty members have towards a student with a disability (Aaberg, 2010; Dahl, 2010; Ney, 2004).

Purpose of the Integrative Review

With nursing faculty regulating entrance into their programs, it begs the question: “What are the attitudes of nursing faculty towards nursing students with disabilities (NSWD)?” An integrative review of the nursing literature was undertaken in order to (a) evaluate the research available on nursing faculty’s attitudes towards nursing students with disabilities in undergraduate programs; (b) extract findings from qualified research; and (c) discuss the implications, recommendations, further research and strategies for the inclusion of students with disabilities to become professional nurses.

Methodology of Review

Design

The framework presented by Whittemore and Knaff (2005) drives this integrative review. Whittemore and Knaff's integrative review method allows for the combination of diverse review methodologies, including qualitative data analysis in combination with empirical and theoretical sources, for greater evidence-based nursing practice. This methodology improves the rigor of the review and captures the phenomenon of investigation: nursing faculty's attitudes towards nursing students with disabilities.

Search Methods

A comprehensive computerized database search was conducted using the Boolean operator of "AND" in Cumulative Index of Nursing and Allied Health Literature (CINAHL) which yielded 146 articles. Education Resources Information Center (ERIC) generated 13 articles, 4 papers were produced by Web of Science, Health Science in ProQuest garnered 85 articles, PubMed populated 15 articles, and 6 papers were found in Dissertations and Theses from ProQuest since the enactment of the ADA in 1990 to 2012 using the search terms: "nursing education," "faculty attitudes," and "nursing student with disab*." Four additional articles were obtained by using the ancestry approach and hand search to explore possible relevant articles on the topic from citations and abstracts. It was necessary to use the Boolean operator of "AND" and "language" in English to narrow the results from 34,379 entries to 273. Duplicates were removed and abstracts read for appropriateness. Fifty-two articles were advanced and evaluated against inclusion and exclusion criteria established before the commencement of the integrative review.

Review Process

Inclusion criteria were (a) quantitative, qualitative, mixed-method published research studies including dissertations with clearly defined aim, purpose, methodology, results, data analysis, and references; (b) research studies addressing nursing faculty attitudes towards nursing students with disabilities regarding admission, accommodation, academic standards, patient safety, NCLEX-RN® eligibility, and employment of nursing students with disabilities; (c) studies conducted within associate degree (ADN) or baccalaureate degree (BSN) nursing program; (d) research addressing the attitudes of nursing administration and clinical agencies towards nursing student with disabilities; (e) articles classified as curricular commentaries addressing the

issue of students with disabilities within nursing education; (f) and studies or articles germinated since the ADA and ADAAA were enacted. Studies meeting inclusion criteria were evaluated again and coded for methodological quality (i.e., 2=high, 1=low), relevance to topic (i.e., 2=yes, 1=no), and identified themes.

Exclusion criteria included (a) nursing faculty's anecdotal experiences working with nursing students with disabilities; (b) studies conducted on nurses with disabilities in practice or their employers; (c) and studies not meeting the second round of the critique process. As a result of the established criteria and evaluation process, a total of six published studies and three doctoral dissertations ($n=9$) were analyzed for this review. Four curricular commentary articles were reviewed ($n=4$) and included in the discussion section in order to provide perspectives from content experts in disabilities and nursing education, but these were not factored into the review of the findings.

Findings

Seventy-eight percent of the articles were dated from 1995 to 2004 (6 publications, 1 dissertation) and only two dissertations were more recent, from 2010 (22%). Most of the studies were quantitative (78%, $n = 7$) and descriptive surveys ($n = 5$), quasi-experimental (pre/post-test) method ($n = 1$) or descriptive comparison survey ($n = 1$) (see Tables 1 and 2). Sample sizes of participants in these studies were identified as either nursing faculty ($n = 84$ to 317) or schools of nursing ($n = 52$ to 247).

One qualitative dissertation (11%, $n = 1$) used semi-structured open-ended interviews to collect data ($n = 10$) that were analyzed for patterns and themes. The other dissertation was a mixed-method study (11%, $n = 1$) in which the data were collected through surveys and five open-ended questions.

Quantitative Research

Christensen (1998) examined admission decisions and attitudes of nursing faculty towards students with a physical disability through the Interaction with Disabled Persons (IDPS), a modified version of the Contact with Persons with Disabilities Scale (CPDS), and the Nurse Educator's Information Survey (NEIS), which she developed. The IDPS is a 20-item instrument measuring an individual's attitude toward people with disabilities using a 6-point Likert scale. Christensen reported previous Cronbach's alpha for IDPS at .74 to .86 and construct validity was evaluated by factor analysis and nomological network of fit. The modified version of the CPDS measured the amount and quality of a participant's previous interactions with individuals

Table 1

Quantitative Studies on Faculty Attitudes Towards Students with Disabilities

Author	Purpose	Population/Sample/Design
Christensen (1998)	Examined nursing faculty's admission decisions, attitudes toward individuals with visible disabilities, and barriers to admission	Nursing faculty of ADN and BSN programs ($n=84$) Descriptive Study
Ney (2010)	Investigated the impact of ADA on nursing education; faculty's attitudes towards students with disabilities and accommodations provided	Nursing faculty of ADN and BSN programs ($n=317$) Descriptive comparison study
Magilvy & Mitchell (1995)	Explored nursing faculty experiences with students with disabilities; measure admittance and accommodations provided	Nursing faculty of ADN and BSN programs ($n=69$) Descriptive study
Watson (1995)	Examined nursing schools methods for identifying and accommodating students with disabilities	Schools of Nursing Deans and Directors of BSN programs ($n=247$) Descriptive study
Persaud & Leedom (2002)	Studied the impact of the ADA on admission accommodation, and retention of nursing students with disabilities	Schools of Nursing Deans and Directors of ADN and BSN programs ($n=52$) Descriptive study
Sowers & Smith (2004a)	Identified nursing faculty's perceptions of students with disabilities completing their program and success in nursing; assess knowledge of accommodations	Nursing faculty of ADN and BSN programs ($n=88$) Descriptive study
Sowers & Smith (2004b)	Evaluated the impact of a professional training program on nursing faculty's perceptions, knowledge, and concerns regarding students with disabilities	Nursing faculty of ADN and BSN programs ($n=112$) Quasi-experiment, Pretest-posttest

Table 2

Qualitative and Mixed Method Studies on Faculty Attitudes towards Students with Disabilities

Author	Purpose	Population/Sample/Design
Dahl (2010)	Explored nursing faculty's perception of admission and education of students with disabilities in their program	Nursing faculty of BSN program ($n=10$) Qualitative study
Aaberg (2010)	Investigated nursing faculty's implicit attitudes towards students with visible disabilities	Nursing faculty of BSN programs ($n=132$) Mixed-method study

with a disability. The participant responded to 20 situations using a 5-point Likert scale. To assess internal consistency, the researcher reported using a split-half and Cronbach's alpha at .89 to .95 for the five samples. The NEIS (Christensen, 1998) scale consisted of two parts: demographic data and a brief vignette to assess the decision-making process nursing faculty underwent in relation to the accommodation an applicant with a disability would require. Face and content validity were reviewed by five graduate nursing students and revisions were made based upon their feedback. This descriptive study utilized a convenience sample of faculty ($n = 175$) representing 17 Minnesota nursing programs and resulted in a response rate of 55% ($n = 84$) to the mailed survey.

The findings revealed nursing faculty had more positive attitudes towards an individual with a disability than the normative sample. Greater negative attitudes were held among faculty who had less exposure to individuals with a disability. The relationship between nursing faculty's attitudes towards people with disabilities (IDPS) and degree of contact (CDPS) scores were examined using the Spearman rank correlation coefficient and resulted in a statistically significant, but weak relationship between these variables (i.e., the lower the amount of contact with an individual with a disability was associated with greater negative attitudes towards an individual with a disability). Sixty percent of the faculty preferred the identification of a disability and would base program acceptance on the ability to provide accommodations. The survey also reported that 28% of the faculty would accept students under a contingency of further assessments, as applicable, and 8% desired a list of essential functions all students would have to perform in order to graduate from the program (Christensen, 1998).

General limitations of Christensen's study included no reported power analysis, no pilot study on the combination of scales used, convenience sample from one state, and unexplained missing data ($n = 85$ to 79). Several limitations to the NEIS were identified. There was no reliability for the vignettes; face and content validity were assessed by five graduate nursing students, not content experts; and a factor analysis was conducted on the IDPS but the factors were not reported in the paper.

Ney (2004) randomly surveyed nursing faculty on their attitudes towards nursing students with disabilities, accommodations, and the impact of ADA on nursing education. The researcher used Bolton's 50-item (Part A, B, and C) Survey of the Impact of the ADA on Nursing Education Programs in Alabama (1994) for this comparative study. Part A contains 24 items measuring the impact of the ADA on the nursing program using a 5-point Likert scale. Part B (19 items: 5-point Likert scale) was specific to the participant's attitude towards NSW. Part C was a seven-item subsection pertaining to accommodations (e.g., sufficient accommodation available, essential skills, criteria for demonstrating essential skills, number of students in clinicals, disabilities officer at the institution) and was yes/no type questions. Content validity was established in Bolton's pilot study by the review of literature and panel of content experts. Split half reliability for this pilot was provided by the administrators of the National League for Nursing Accrediting Commission (Part A, $r = .94$; Part B, $r = .93$). Ney reported the Cronbach's alpha of .70 to .93 for the program levels and subsections analyzed. The researcher performed a power analysis to calculate sample size of 384 participants ($n = 192$ ADN; $n = 192$ BSN). The population for this study were ADN and BSN nursing faculty ($n =$

534) throughout the United States with a total rate of 58.2% ($n = 317$). SPSS 10.0.5 was used to calculate the descriptive and inferential statistics.

The findings from Ney's study were three pronged: Part A data analysis did not indicate a difference between the ADN and BSN nursing faculty groups in regards to impact of the ADA on collegiate nursing education. For Part B, both groups had positive attitudes towards nursing students with disabilities; however, there was a statistically significant difference between the groups means indicating BSN faculty were more positive towards students with disabilities than ADN faculty. In Part C, participants identified accommodations often used by nursing students with disabilities as physical accessibility, special testing, tutors, and rated these accommodations as adequate. Other accommodations provided to students ranged from note takers to adaptive equipment in the classroom and skills lab. Some faculty acknowledged accommodations were not available at their school of nursing (i.e., modified academic load, lecture taping, transition programs, and course waivers). Nursing faculty reported their experiences with students having a disability were often for those with learning disabilities (LD), chronic illness, and auditory loss. Limitations to this study included no content validity index from Bolton's pilot, faculty at both schools could have responded to questions in a "socially acceptable" manner, and the length of the questionnaire causing participant fatigue.

Magilvy and Mitchell (1995) conducted a random descriptive survey of BSN and ADN nursing school faculty throughout the United States to explore their experiences with students they admit and graduate with visual, hearing, mobility, or LD. These researchers designed a mailed questionnaire consisting of a check-off list, Likert scale, and open-ended questions. Content validity was not established but a pilot study was conducted to examine reliability. No other reliability or validity information was reported. The sample for this study ($n = 200$) included deans or directors of schools of nursing (Part 1) who selected ADN and BSN nursing faculty members (Part 2) to participate in the study, along with the school's program admission officer (Part 3). The response rate was 40% ($n = 86$), representing 44 different states.

The findings of the study reported that most nursing faculty had experience working with students with a disability. The majority of these interactions were with students having LD, followed by social/emotional, auditory or chronic illness. Nursing faculty reported the use of creative problem solving to assist students in meeting criteria (e.g., testing arrangements for a student with LD or alternative experiences in clinical).

The type of accommodations used by the students varied greatly. Most schools reported admitting students with known disabilities (e.g., hearing, mobility, visual), but "learning disabilities, chronic illness, and mental disabilities were hidden impairments, typically diagnosed during the student's program rather than prior to admission" (Magilvy & Mitchell, 1995, p. 33). Approximately half of the students with disabilities graduated. Deans and directors of nursing hand selected faculty to participate in the study; therefore, bias or "socially acceptable" answers may have been recorded. In addition, the Likert-scale options were not disclosed.

Watson (1995) developed a descriptive survey to examine BSN nursing schools' trends in admitting students with disabilities, identification, accommodations, and clinical performance criteria. The pilot instrument was reviewed by faculty and clinical specialists for content validity, but no other reliability or validity indexes were performed. The sample for the survey were 420 BSN programs with a response rate of 59% ($n = 247$).

The findings of Watson's study revealed nearly half of the schools admit students with disabilities, with LD most prevalent, followed by mobility, auditory, and visual impairment. Accommodations ranged from tutoring to equipment modification. Over half of the nursing programs reported attempts to identify new applicant or transfer student disability status. One-fifth of the schools requested students to voluntarily disclose their disability status on admission forms. Limitations to Watson's study included the fact that; validity and reliability of the survey were not provided; item types on the instrument were not well defined; no power analysis was conducted; a convenience sample was used; and a restricted sample, as only members of the American Association of Colleges of Nursing (AACN) were invited to participate in the survey.

Persaud and Leedom (2002) studied the impact of the ADA on admission and retention of students with disabilities in BSN nursing programs. These researchers designed a descriptive survey that specifically addressed schools' methods of identifying students with disabilities and practices used to establish reasonable accommodations. The six part instrument used yes/no responses and provided room for comments. No validity or reliability information was provided. The survey sample was 102 National League for Nursing (NLN) BSN program members (deans or directors of schools of nursing) in California and resulted in a response rate of 50% ($n = 52$).

According to the survey results, the majority of the schools of nursing had applicants with identified disabilities. Dyslexia, hearing loss, situational depression,

and LD were the most frequently reported. Various types of accommodations were available to students with disabilities (e.g., audio-taped lectures, note takers, testing, and adaptive equipment), however, 19% ($n = 10$) of respondents reported not providing appropriate accommodations to students who qualified. Some faculty commented on the limitation of providing accommodations in the clinical setting secondary to clinical agency policies. For example, a clinical agency would not allow students or staff to use wheelchairs or crutches. Other schools would not accommodate a severe back injury since students were required to bend and lift. Some participants felt forced to accommodate when they perceived the request as unreasonable; such as, providing extra time for a skill performance or assessment (16%, $n = 8$). Other schools reported they would opt out of offering the same accommodations in the future. Limitations of this study included the absence of reported validity or reliability data, the lack of a power analysis, and a sample that was restricted to NLN members residing in one state.

Sowers and Smith (2004a) studied nursing faculty in regards to their perceptions, knowledge, and concerns for nursing students with disabilities and their completion of the nursing program, as well as success in subsequent nursing careers. Sowers and Smith developed and sent a descriptive survey with a 38 item 6-point Likert scale to eight selected ADN and BSN programs. The survey sample was 244 ADN and BSN Oregon nursing faculty and resulted in a response rate of 36% ($n = 88$).

The results of this survey found that nursing faculty perceived students with ADD/ADHD as the most likely to succeed in their program and in the nursing profession. Faculty perceived students who had a vision loss as the least likely to succeed in their program and the profession. Faculty also reported their concerns regarding the time commitment surrounding students needing accommodations. In addition, nursing faculty perceived they lacked the knowledge to teach students with disabilities in the classroom and clinical setting, felt they needed more information on accommodations, and wished to better understand legal obligations to the student. The limitations of this study included a lack of a power analysis, lack of instrument reliability/validity, and a small geographically restricted sample size.

Sowers and Smith (2004b) conducted a quasi-experimental (pretest-posttest) study with nursing faculty who were participating in an educational program specific to students with disabilities. Prior to the program, faculty completed an 18 item 6-point Likert scale questionnaire regarding their attitudes towards students with disabilities and their ability to

be successful in their program, as well as in the nursing profession. The questionnaire was piloted in a previous study.

Faculty rated students with a vision loss as least likely to succeed in their program and in the nursing profession, followed by students with mental health issues and wheelchair users. These results replicated their findings from a separate earlier study (Sowers & Smith, 2004a). Upon completion of a two hour educational program, there was a statistically significant change in faculty attitude scores. Faculty members were more positive towards students with disabilities and perceived they would be successful in their program and in the profession of nursing. Faculty concerns in regards to time requirements, patient safety, and academic and clinical standards were reduced. Limitations to this study were the researchers' use of a convenience sample restricted to institutional affiliations in Oregon, a need to consider a Hawthorne effect secondary to the researchers' collegial relationship with the participants, and no ANCOVA to assess for covariates.

Qualitative Research

Dahl (2010) explored BSN nursing faculty's perceptions regarding the entrance of students with disabilities into nursing education and the education of those students once admitted. Two semi-structured audio-taped interviews were conducted using open-ended questions guided from the literature and focused on faculty's definition of disabilities, explanation of admission criteria, experiences with students with disabilities, and essential function criteria used in the admission process. Data were transcribed, verified, and reviewed with anecdotal notes. After the second interview and reading of the transcripts, data was interpreted and themes were constructed.

Findings indicated that nursing faculty used the medical/individual model as the underpinning of their decision making process for admitting and educating students with disabilities. Faculty lacked experience and knowledge to work with students with disabilities in the classroom and clinical setting, resulting in oppressive behaviors such as making a NSWG perform a pre-skill that the student's peers were not required to perform. Nursing faculty were the gatekeepers of the admission process, which was based on historical traditions. Some faculty disclosed their own disability, which made them more knowledgeable regarding resources and accommodations for students with a disability. Nursing faculty who had a disability shared negative experiences in their role and the lack of support from administration, peers, and accommodations by the institution. Limitations of Dahl's study included

the absence of a peer debriefing, member checking occurred during the interview and not after data analysis, and the fact that an inquiry audit by external content experts was not conducted. Additional limitations to the study included a small sample size ($n=10$) polled from the limited geographic area of metropolitan Minneapolis/St. Paul.

Mixed-Method Research

Aaberg (2010) surveyed BSN nursing faculty to explore their implicit attitudes towards students with visible disabilities. Participants completed the on-line Disability Attitudes Implicit Association Test (DA-IAT), a demographic survey, and open-ended questions. A DA-IAT score greater than zero indicated faculty preference for able-bodied persons. This instrument's validity (e.g., content, construct, convergent, discriminate, predictive) was historically established. Cronbach's alpha was reported at .78. The demographic survey was an 11 item, yes/no questionnaire, with content validity established by a panel of experts. No reliability index was given. The last instrument was five open-ended questions in which the construct validity was confirmed by experts in the field and responses evaluated through content analysis. A power analysis was conducted and the required number of participants was exceeded. The sample was 781 BSN nursing faculty with a response rate of 22% ($n = 132$). SPSS was used for data analysis.

The results from the DA-IAT instrument revealed nursing faculty strongly preferred able-bodied persons, a statistically significant finding when compared with the normative findings. In the demographic survey, only one variable was statistically significant and indicated greater interactions with an individual with a disability affects implicit attitudes. Themes that emerged from Aaberg's open questions were admission criteria and process, assumptions regarding patient safety, and addressing assessed biases obtained from the survey. Limitations to this study included a restricted population of AACN schools of nursing and users of the Project Implicit website. No pilots for the demographic or open-ended questions were conducted.

Integrative Discussion

Emergent themes from the integrative review were developed through the use of Walker and Avant's (2011) method of concept analysis. Each article was analyzed for defining attributes, antecedents, and consequences and a concept analysis matrix was completed for each article that met the review criteria. The analysis identified admission, accommodations, and perceptions of ability

as key concepts. A synthesis of these main concepts regarding attitudes of nursing faculty towards NSW was pulled forward for further discussion.

Admission

Admission into an undergraduate nursing program is determined by meeting technical standards and program criteria, with or without accommodations (Aaberg, 2010; Christensen, 1998; Dahl, 2010; Magilvy & Mitchell, 1995; Persaud & Leedom, 2002; Watson, 1995). Essential functions are based on nursing tradition and faculty's perceptions of the necessary knowledge, skills, and affective behaviors a graduate must master in order to enter the nursing profession (Aaberg, 2010; Christensen, 1998; Persaud & Leedom, 2002; Sowers & Smith, 2004a, 2004b). Christensen's (1998) study indicated that faculty preferred making their admissions decision based on their knowledge of the applicant's disability, the ability to determine if accommodations were available or needed, and admissions contingent on further assessment. Some schools identified a student's disability status through the application form (Magilvy & Mitchell, 1995; Watson, 1995). Requiring self-identification of a disability or the observation of a disability during an admissions interview and use of that observation in the admission decision are barriers to admission for the student with a disability (Helms et al, 2006; Marks, 2000, 2007; Newsham, 2008). Some faculty indicated they were unable to accept students with disabilities secondary to technical standards policies and procedures of performance established by the nursing program or accommodate at clinical agencies (Dahl, 2010; Persaud & Leedom, 2002). Based on the data available, approximately half of the students admitted with disabilities graduated (Magilvy & Mitchell, 1995).

Accommodations

The retention of nursing students with disabilities is directly related to the accommodations a nursing program provides the student within the classroom and clinical environment (Magilvy & Mitchell, 1995; Persaud & Leedom, 2002). Types of accommodations offered varied by nursing program; however, some faculty indicated accommodations were not available at their school or at the level needed for the student (Magilvy & Mitchell, 1995; Ney, 2004; Persaud & Leedom, 2002; Watson, 1995). Some faculty perceived accommodations as unreasonable and, if given a choice, would not provide them again (Persaud & Leedom, 2002). The process of accommodations was identified as increasing faculty workload since academic adjustments required time to problem-solve with the student

in the classroom or clinical setting (Dahl, 2010; Persaud & Leedom, 2002; Ney, 2004; Magilvy & Mitchell, 1995; Sowers & Smith, 2004a, 2004b). Faculty also found it challenging to change their teaching strategies and approach to course objectives due to their lack of knowledge and lack of experience instructing students with disabilities (Aaberg, 2010; Dahl, 2010; Magilvy & Mitchell, 1995; Sowers & Smith, 2004a, 2004b). No reduced workload was reported for faculty teaching students with disabilities and little or no support was forthcoming from the administration. Faculty identified students with LD as the majority of students with disabilities needing accommodations (Magilvy & Mitchell, 1995; Ney, 2004; Persaud & Leedom, 2002; Watson, 1995), a trend consistent over time.

Perceptions of Ability within the Program and the Nursing Profession

The medical model views a person with a disability as sick; therefore, unable to function as well as a person without a disability (Aaberg, 2010; Dahl, 2010; Ney, 2004; Sowers & Smith, 2004a, 2004b). Faculty may use this model as the underpinning of their perception of students with disabilities and view the disability as something that needs *treatment or intervention*; not as a person capable of delivering nursing treatment or intervention (Aaberg, 2010; Dahl, 2010; Ney, 2004; Ryan, 2011). Concerns for safety and quality care for patients were cited as reasons for not admitting students with disabilities (Aaberg, 2010, Dahl, 2010; Sowers & Smith, 2004a, 2004b); however, there are no studies indicating students with disabilities pose a greater risk to patient safety than students without a disability. These researchers stressed that patient safety is the number one priority in all clinical settings, for students with or without a disability.

Additional faculty concerns were raised regarding academic standards and meeting ADA requirements without changing the curriculum (Aaberg, 2010; Dahl, 2010; Ney, 2004; Sowers & Smith, 2004a, 2004b). Some faculty based their apprehension for professional success of students with disabilities on the erroneous belief that these students would be unable to pass NCLEX®, as needed accommodations would not be provided (Aaberg, 2010; Dahl, 2010; Sowers & Smith, 2004a, 2004b; Watson, 1995). In fact, NCLEX® provides a wide range of accommodations for students with documented disabilities (NCLEX® Examination Candidate Bulletin, 2012). Faculty members in the studies had preconceived attitudes regarding different types of disabilities and a student's likely success in their program and the nursing profession (Sowers & Smith, 2004a, 2004b). No schools reported any dif-

ficulty for graduating nursing students with a disability finding employment. Multiple studies addressed the lack of knowledge and experience faculty had with students with disabilities and its effect on their attitudes towards these students (Aaberg, 2010; Christensen, 1998; Magilvy & Mitchell, 1995; Sowers & Smith, 2004a, 2004b). As nursing faculty were exposed to and given more in-services on disability awareness, perceptions towards students with disabilities became more positive and concerns decreased (Christensen 1995; Ney 2004; Sowers & Smith, 2004a, 2004b).

Though there are many complex elements surrounding nursing faculty attitudes towards students with disabilities, the research supported that nursing faculty perceptions varied depending upon their degree of experiences with individuals having a disability (Christensen, 1998) and the type of program in which they taught (ADN or BSN) (Ney, 2004). BSN faculty had statistically significant more positive attitudes towards students with disabilities than ADN faculty (Ney, 2004). Perceived hierarchy of success in a program was based on the student's type of disability (Sowers & Smith, 2004a; Persaud & Leedom, 2002). In some cases, faculty lack of experience and knowledge of working with students with disabilities resulted in negative attitudes towards these students (Aaberg, 2010; Dahl, 2010; Ney, 2004; Sowers & Smith, 2004a, 2004b). However, faculty who completed an educational program regarding sensitivity to disabilities and accommodations were more positive towards students with disabilities (Sowers & Smith, 2004b).

Recommendations

Nursing education has focused on diversifying nursing practice from many perspectives and this diversification must also embrace individuals with disabilities (Dupler, Allen, Maheady, Fleming & Allen, 2012). Strategies to accomplish this goal include active recruitment of nursing students with disabilities (NSWD), publicizing services provided to students with disabilities in recruitment materials and during student orientation, and a standardized statement in syllabi regarding accommodations and links to the Office of Disabilities (Betz et al, 2012; Dupler et al., 2012; Rosenberg & O'Rourke, 2011; Sowers & Smith, 2004a, 2004b). On campus, the scheduling of formal in-services, held in conjunction with the Office of Disabilities, addressing disability awareness, sensitivity, background and application of ADA and ADAAG, along with awareness training and appreciation of the technology and services available to students with disabilities will give faculty greater knowledge, comfort

and competence teaching NSW (Lombardi, Murray, & Gerdes, 2011; Sowers & Smith, 2004a, 2004b). Off-campus, conducting workshops at local and national conferences to discuss teaching strategies for students with disabilities, assistive technology, and the use of Universal Design Principles in nursing education can play a significant role in further influencing nursing faculty attitudes towards NSW (National League for Nursing, 2003; Marcyjanik & Zorn, 2011).

Future Research

There is a paucity of current empirical research regarding disabilities in nursing education; especially, regarding nursing faculty's attitudes towards this student population. Research money needs to be increased to fund development of evidence-based teaching strategies for students with disabilities in the classroom, clinical, skills and simulation labs. Recruitment of nurse researchers who have disabilities needs to be supported, as they may have a deeper understanding of the complexity of the disability experience and can possibly provide a unique insight for faculty development.

Conclusion

This integrative review explored the attitudes of nursing faculty towards nursing students with disabilities since the enactment of the ADA and ADAAA. Analysis of the nursing literature suggests that faculty generally have positive attitudes towards students with disabilities. Many themes were identified relating to faculty attitudes in the admission, accommodation, and success of nursing students with disabilities in their programs and the nursing profession. Faculty's experiences with students having a disability and participation in awareness programs improved their attitudes and decreased their concerns towards educating this population. Additional research is needed in this area. The implications and recommendations provided in this integrative review for the inclusion of students with disabilities in nursing education hold the promise of diversifying and strengthening the profession.

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About the Author

Janet A. Levey, R.N. earned her B.S.N. with honors from De Paul University in 1982 and her M.S.N. from Concordia University Wisconsin in 2008. She is currently working on her doctorate in Nursing at Marquette University. She is a National League for Nursing Certified Nurse Educator and is Board Certified in Ambulatory Care Nursing by the American Nurses Credentialing Center. Janet has taught in classroom, simulation lab, and clinical settings. She is an active member of Sigma Theta Tau International Honor Society of Nursing, Wisconsin League for Nursing, National League for Nursing, International Nursing Association for Clinical Simulation and Learning, Society for Simulation in Healthcare, National Organization for Nurses with Disabilities, and the Association of Medical Professionals with Hearing Losses. Janet is an advocate for inclusive teaching pedagogies as a means to meet professional nursing organizations' call to diversify the nursing workforce and reduce the nursing shortage. As a nurse educator who is deaf and teaching with a service dog, she has a personal interest in ensuring knowledge and practice access for all students, with and without disabilities. She can be reached by email at: janet.levey@marquette.edu

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