Factors Influencing Occupational Therapy Students’ Attitudes Toward Persons With Disabilities: A Conjoint Analysis

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OBJECTIVES. The purpose of this study was to examine factors influencing occupational therapy students’ context-specific attitudes toward persons with disabilities.

METHOD. Attitudes of 128 occupational therapy students toward placement of a residential treatment facility in their community were measured by a conjoint measurement of 16 stimulus cards (representing persons with varying disability types, gender, age, employment history, and history of aggression) and their responses were analyzed using conjoint analysis.

FINDINGS. Disability type and threat of violence were significantly higher on important scores compared with the other attributes across all students. Additionally, Year-Three students had significantly higher importance scores for the employment attribute than Year-One students.

CONCLUSION. Conjoint analysis can be used effectively, as an indirect measure, to study factors contributing to the formation of attitudes–preferences for persons with disabilities in specific social contexts.


The study of attitudes toward disability has been an important research topic in occupational therapy. Researchers are particularly interested in the attitudes of occupational therapy professionals and students toward persons with disabilities. As gatekeepers of both information and services, negative attitudes of health care professionals toward disability may unduly restrict the options or alternatives that they generate for their patients with disabilities (Benham, 1988; Estes, Deyer, Hansen, & Russell, 1991; Paris, 1993). Ultimately, negative attitudes toward persons with disabilities affect the successful rehabilitation, integration, and independence of persons with disabilities (Antonak & Livneh, 1988). Thus, occupational therapy professionals endorse a humanistic and holistic philosophy that values individual choice, engagement in productive activity, and the right to self-fulfillment and equal opportunity for each person (Bruce & Christiansen, 1988; Lee, Paterson, & Chan, 1994).

The attitudes of rehabilitation health professionals and students toward persons with disabilities have received much attention in the rehabilitation health literature. Studies on this topic have yielded somewhat inconsistent results, as have studies that indicate that rehabilitation health professionals are susceptible to the same negative, stereotypic attitudes toward persons with disabilities as the general population (Cook, 1998; Pederson & Carlson, 1981). Not surprisingly, research into the attitudes of occupational therapy professionals and students toward people have also yielded conflicting results. For example, Benham (1988) reported high positive attitudes toward persons with disabilities among delegates at an American Occupational Therapy Association (AOTA) conference. Estes et al.
(1991) reported that occupational therapy students have more positive attitudes toward persons with disabilities than medical technology students. However, Lyons (1991) revealed that the attitudes of students in occupational therapy did not differ from those of a business cohort.

In terms of the impact of occupational therapy curricula on students’ attitudes toward persons with disabilities, Estes et al. (1991) found that fourth-semester occupational therapy students have higher (more favorable) attitude scores (as measured by the Attitudes Toward Disabled Persons [ATDP]) than first-semester occupational therapy students and first- and fourth-semester medical technology students. Lee et al. (1994) also noted a significant educational effect on attitudes of occupational therapy students in Hong Kong. However, the attitudinal change among the students did not increase with the amount of education received. Recently, Chan, Lee, Yuen, and Chan (2002) compared the attitudes of another cohort of occupational therapy with business students in Hong Kong. They found that both 1st-year occupational therapy and business students started with similar attitudes but showed different trends of attitudinal change. By the end of the 1st year, the occupational therapy students had significantly more positive attitudes, whereas the business students were more negative. They concluded that academic studies in a clinical curriculum seem to have enhanced positive attitudinal change among occupational therapy students. However, Lyons and Hayes (1993) in a study of occupational therapy students’ perception of persons with psychiatric and other disorders contended that professional training did not change the attitudes of students toward persons with disabilities.

Current Trends in Attitudes Toward Disability Research

Given the effect of occupational therapy professionals’ attitudes on the psychosocial and vocational adjustment of persons with disabilities, attitudes toward disability will continue to be an important topic in occupational therapy research. Research efforts, however, must be expanded to find better way to measure societal attitudes toward persons with disabilities, to study factors influencing the formation of negative or positive attitudes toward persons with disabilities in multiple social contexts, and to determine the effectiveness of different strategies for changing negative attitudes toward persons with disabilities.

In the area of assessment, recent research efforts have been focusing on: (a) the need to develop multidimensional scales, (b) the development of indirect methods to measure attitudes toward persons with disabilities, and (c) the measurement of attitudes in specific contexts (Livneh & Antonak, 1994; Wright, 1988). Specifically, rehabilitation health researchers have been expressing concerns about the utility of using overt and obtrusive direct methods to measure attitudes (e.g., self-report instruments like the ATDP), especially when the targeted attitude referent is emotionally loaded and socially sensitive and where conscious or subconscious mechanisms may interfere and alter the respondent’s attitudes so as to conform to prevailing norms and socially sanctioned beliefs (Livneh & Antonak). In addition to social desirability issues, Wright made a strong criticism of the issue of decontextualizing disability in disability research. Grand et al. (1982) suggested that realistically, attitudes toward disability should be examined on the basis of social context and specific disability. They found Americans’ attitudes toward disability varied significantly according to social contexts, with more positive attitudes being evident in work situations than in dating and marriage situations.

Applications of Conjoint Analysis in Attitudes Toward Disability Research

Recently, conjoint analysis, a marketing research tool, has begun to receive attention in rehabilitation health research. Originally, conjoint analysis has been used successfully by business researchers to answer questions such as: “What product attributes are important or unimportant to the consumer?” “What levels of product attributes are the most or least desirable ones in the consumer’s mind?” “What is the market share of preference for leading competitors’ products versus our company’s existing or proposed product?” Respondents are asked to make choices by trading off features, one against another (American Marketing Association [AMA], 1992). As a measurement technique, conjoint analysis provides a fuller description of the decision-making process of both individuals and groups, including balancing and weighting, combinations, and interactions among multiple factors.

As a measurement of attitudes toward disability, conjoint measurement could increase a researcher’s ability to understand factors contributing to the formation of attitudes or preferences in multiple social contexts (Tsang, Chan, & Chan, 2001). In previous studies of hierarchical ordering of attitudes toward persons with disabilities, the important concept of emphasizing “persons and their assets,” rather than emphasizing only “disability labels,” has been ignored. A number of researchers presented their stimuli with brief disability labels, such as “mental illness,” or with more specific labels such as “schizophrenia” (see Antonak, 1980; Dooley & Gliner, 1989; Schmelkin, 1985). Participants have often been required to rank their prefer-
ences based on a single attribute (e.g., type of disability). In these single-attribute-design studies, participants have shown a tendency to misperceive each disability label as characterizing a homogenous group (Abroms & Kodera, 1979). The multiple-factor (profile) approach based on the method of conjoint measurement and analysis provides information, not only about the individuals’ disabilities, but also about other characteristics (e.g., a 25-year-old male with a severe physical disability who is a college student). Thus, a more holistic view of persons with disabilities is presented in research designs based on the method of conjoint analysis. In a more realistic way, respondents form their preference ordering using the process of evaluations and comparisons among multiple characteristics of persons with disabilities.

As an indirect method to evaluate attitudes related to the combinations of characteristics of persons with disabilities, conjoint analysis also has the advantage of being less affected by social desirability than the traditional methods of assessment, enhancing the validity of research results from those who are well-educated such as health care professionals who are the subjects of interests in this study (Shamir & Shamir, 1995). Thus, conjoint measurement as an indirect attitude or preference measure, using multiple factors and specific social contexts, may be useful for refining research on attitudes of rehabilitation health professionals toward persons with disabilities (Chan et al., 2002).

Recently, Wang, Thomas, and Chan (in press) investigated the attitudes of college students toward persons with disabilities using conjoint analysis. College students’ preference orderings toward five demographic characteristics of persons with disabilities (disability, severity, age, gender, and education) were examined. The relationships between preferences and participants’ culture, gender, and contact with persons with disabilities were also examined. Junior and senior female college students majoring in special education, 18 to 25 years of age, were recruited from two teaching universities in Taiwan (n = 89) and four universities in America (n = 83). Wang et al. developed a conjoint measurement of 16 cards that were a representative sample of all possible combinations of the five demographic variables thought to influence attitudes toward disabilities. Participants were told that they were going to join a hypothetical companion program as a mentor or companion to a person with a disability. They were instructed to sort these 16 cards according to their personal preferences (from most preferred to the least preferred combination) for working with individuals with disabilities. Wang et al. analyzed the participants responses to the conjoint measurement using conjoint analysis and found that: (a) younger and higher educated females with milder disabilities were preferred, and (b) persons with physical disabilities were preferred by Taiwanese students, whereas persons with developmental disabilities were preferred by American students. They concluded that although disability-related attributes are heavily involved in the preference-making process, preference formation is also significantly affected by demographic characteristics unrelated to disability.

Wong, Chan, Cardoso, Lam, and Miller (in press) examined the attitudes of rehabilitation counseling students toward persons with disabilities in three social contexts—as a mentor–companion, as a coworker, and as a close personal friend. They found that (a): disability-related factors (disability type) were heavily involved in the preference-making process, (b) attitude or preference formation was also significantly affected by other client characteristics unrelated to disability (education, age, and ethnicity), (c) factors influencing attitude or preference formation or both were similar across the three social contexts. Preference ordering for the disability attributes was, from the highest to the lowest, physical disability, developmental disability, and mental illness.

These conjoint analysis studies, which included multiple variables of persons with disabilities and multiple social contexts in research design, may have higher external validity than previous studies with only a single variable (e.g., disability label) in studying hierarchical preferences for disability labels. In addition, as mentioned, the use of a combination card format generated by conjoint analysis can be classified as an indirect measurement method and may have the advantage of minimizing the effect of social desirability.

To explore the application of conjoint analysis in occupational therapy research, the present study employed the conjoint analysis procedure to examine factors influencing occupational therapy students’ context-specific attitudes toward persons with disabilities. The relationships between gender of the occupational therapy students and their preferences for persons with disabilities as well as the occupational therapy curricula effects on attitudes were also examined. Factors influencing context-specific attitudes of occupational therapy students toward persons with disabilities were examined by studying their preferences for placing a residential rehabilitation facility in their own neighborhood. This context was chosen, as community integration of persons with disabilities is still a controversial and sensitive issue in Hong Kong (Cheung, 1990).

**Method**

**Research Design**

According to Heppner, Kivlighan, and Wampold (1999), quantitative descriptive designs include research strategies that enable the investigator to describe the occur-
ence of variables, the underlying dimension in a set of variables, or the relationship between or among variables. Specifically, passive research designs (e.g., ex-post facto designs and multiple regression) can be used to examine complex relationships among variables. In the present study, conjoint analysis (a nonparametric multiple regression) was used to determine the effect of disability-specific and other demographic variables on attitudes toward persons with disabilities and an ex-post facto design was used to determine the gender and curricula effects on attitudes.

**Participants**

One hundred and eight undergraduate students enrolling in a degree program in occupational therapy at a university in Hong Kong participated in this study. Sixty (55.6%) were Year-One and 48 (44.4%) were Year-Three students. The participants included 41 (38%) male students and 67 (62%) female students, with a mean age of 21.3 years ($SD = 2.2$). Ninety-nine students (91.7%) had attended courses, exhibitions or seminars on disabilities or rehabilitation and 13 (12%) had not. Thirteen Year-One students reported no previous contacts with persons with disabilities. (At the time of this study, the 2-week clinical placement for Year-One students had not begun.) Seventy-three students (67.6%) indicated that there was no rehabilitation facility near their residential area.

The 3-year occupational therapy curriculum in Hong Kong is composed of 132 credits of university coursework (108 credits) and clinical placements (24 credits). The 24 credits of clinical placement translated to approximately 1,000 hours of clinical practice. The distribution of the clinical placement credits are: two in Year-One, six in Year-Two, and 16 credits in Year-Three. Students who complete the program automatically become licensed practitioners in Hong Kong. Both semesters of the 1st year of study are exclusively academic studies. The first hands-on clinical placement occurs after the second semester during the summer period where the students have ample opportunity to make contact with persons with disabilities. Subsequent didactic and clinical training are characterized by an increase in scope, complexity, and specialization of clinical skills and practices. The students complete their occupational therapy degree in 3 years.

**Instruments**

The occupational therapy students were administered a conjoint measurement of 16 stimulus cards for evaluating their attitudes—preferences for persons with disabilities. Because of the possibility of information overload, only five attributes were used (Green & Srinivasan, 1978). The five attributes hypothesized to be important in determining students’ preferences for locating residential treatment facilities in their community were: (a) disability type with three attribute levels (physical disability, developmental disability, and psychiatric disability); (b) gender with two levels (male and female); (c) age with three attribute levels (adolescents and young adults, middle-aged adults, and elderly); (d) employment with two levels (employed and unemployed); and (e) history of aggressive behavior with three levels (no history of aggressive behavior, no record of such behavior in the last 5 years, and no record of such behavior in the last 3 years). These basic characteristics were chosen because they are often included as variables in attitudes toward disability studies for Asians (Chan et al., 1988; Cheung, 1990).

The Disability Type (3 levels) X Gender (2) X Age (3) X Employment (2) X History of Aggressive Behavior (3) generated a total of 108 combinations of stimulus cards. In view of the difficulty that people had when ranking tasks with more than 30 stimuli (Green & Srinivasan, 1978), the stimuli in the current study were reduced to an orthogonal main-effects plan with only 16 hypothetical combinations. The procedure recommended by Green (1974) was used and stimuli were generated from the Statistical Package for the Social Sciences [SPSS; Version 8.0] program. Sixteen verbal description stimuli based on combinations of the five attributes and their associated levels, were then developed. For example, one of the verbal description stimuli was “Unemployed young male adults with mental retardation without any history of aggression.” Each verbal description stimulus was printed on a 2-in. X 3-in. card.

**Procedures**

Participants were recruited to participate in this study in the last tutorial of the courses “Performance Components III: Psychosocial” and “Occupational Therapy (Psychosocial Dysfunctions)” in the first semester. All students enrolled in the seminars took part in the study. After signing the consent form, they were asked to sort the 16 stimuli cards in ascending order from the most preferred group to the least preferred group of persons with disabilities to live in a residential treatment center in their community.

**Data Analysis**

Conjoint analysis was the primary statistical analysis procedure used in this study. Conjoint analysis can be conceptualized as a nonparametric statistical procedure that is a counterpart to multiple regression analysis. However, it has two features that distinguish it from traditional multiple regression analysis. The first is the process of trade-offs among multiple attributes that simulates real-life situations (AMA, 1992). According to Louviere (1988), the development of conjoint analysis was closely related to theories of
human decision making (e.g., information integration theory and psychological decision theory). Theories of human decision making are basically concerned with preference judgments among multiattribute alternatives. Similarly, conjoint analysis requires respondents to make preference decisions through a process of comparisons and trade-offs among comparative and competitive alternatives, a situation that may be very similar to real-life decision situations.

The second distinct feature is based on a decompositional approach, which allows researchers to estimate the structure of individual or group preferences (Louviere, 1988; Willkie & Pessemier, 1973). Given respondents' overall evaluations of multiattribute alternatives, researchers are able to find a set of relative importance scores for attributes by using conjoint analysis (AMA, 1992; Louviere). Accordingly, researchers are able to discern which attributes more strongly influence preference evaluations.

Specifically, the data obtained from the card sort provide two important kinds of information:
1. The utility of each level of each attribute.
2. The importance of each attribute in the decision process.

Utilities are sometimes referred to as “part-worth utilities” that are usually derived using ordinary least squares dummy variable regression analysis. It is a numerical expression of the values that respondents place on an attribute level. Attribute importance deals with the relative importance of each attribute. For example, if negative attitudes toward placement of residential treatment facilities in the community are hypothesized to be mostly influenced by perceived threat, then the most important attribute consideration in rejecting or accepting the location of residential treatment facilities in the community would be persons with disabilities’ histories of violent behavior. Specifically, relative importance (the importance score) is calculated by first determining the range of utilities (part-worth score) for each attribute. Then, the sum of the ranges of all attributes is determined. Finally, the importance for each attribute is calculated in terms of its range as a percentage of the sum of the ranges across attributes (AMA, 1992).

The conjoint analysis procedure of SPSS was used to compute the utility scores for each level of the five attributes and the importance score for each of the five attributes. A discrete model was specified, with the assumption that the factor levels are categorical and no assumption is made about the relationship between the levels and the data (SPSS).

Results

Relative Importance Scores

The relative importance scores for Year-One and Year-Three students, male and female students, and the total sample are presented in Table 1.

Relative importance scores provide information about the relative importance of each attribute in the preference or attitude formation process. The importance scores sum to equal 100, the higher the score the more important the factor in influencing the individual student’s preference or attitude formation for persons with disabilities in specific social contexts.

In this study, the relative importance score (the mean importance score) of the attribute disability type for the total sample was computed to be 34.53, history of aggressive behavior was 26.41, age was 14.14 years, employment was 13.83, and gender was 11.09. The rank order of attribute importance is therefore disability type, history of aggressive behavior, age, employment, and gender.

To investigate the statistical differences among the relative importance scores of the five attributes, 10 planned pair-wise comparisons were performed: disability versus gender, disability versus age, disability versus work history, disability versus history of aggressive behavior, gender versus age, gender versus work history, gender versus history of aggressive behavior, age versus work history, age versus history of aggressive behavior, and work history versus history of aggressive behavior. The Holm’s sequential Bonferroni procedure was used to control for Type I errors ($p < .05$).

Table 1. Relative Importance of Factors Influencing Preferences for Persons With Disabilities

<table>
<thead>
<tr>
<th>Attribute Level</th>
<th>Year-1 R-I Mean (SD)</th>
<th>Year-3 R-I Mean (SD)</th>
<th>Male R-I Mean (SD)</th>
<th>Female R-I Mean (SD)</th>
<th>Total Sample R-I Score Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability</td>
<td>35.85 (17.42)</td>
<td>32.88 (17.76)</td>
<td>32.99 (17.47)</td>
<td>35.47 (17.56)</td>
<td>34.53 (16.78)</td>
</tr>
<tr>
<td>Gender</td>
<td>10.76 (9.75)</td>
<td>11.51 (11.78)</td>
<td>11.87 (9.59)</td>
<td>10.61 (11.04)</td>
<td>11.09 (10.66)</td>
</tr>
<tr>
<td>Age</td>
<td>15.54 (12.23)</td>
<td>12.78 (7.39)</td>
<td>14.87 (10.23)</td>
<td>13.70 (11.57)</td>
<td>14.14 (11.04)</td>
</tr>
<tr>
<td>Work Status</td>
<td>11.16 (7.17)</td>
<td>17.16 (13.35)</td>
<td>14.57 (11.33)</td>
<td>13.37 (10.45)</td>
<td>13.83 (10.75)</td>
</tr>
<tr>
<td>Aggressive Behavior</td>
<td>27.00 (16.42)</td>
<td>25.68 (16.11)</td>
<td>25.71 (17.28)</td>
<td>26.84 (17.28)</td>
<td>26.41 (16.78)</td>
</tr>
</tbody>
</table>

Note: R-I = Relative importance scores.
Based on the results from 10 pair-wise comparisons, the relative importance score of the disability attribute was significantly higher than those for the gender, age, work history, and history of aggressive behavior ($p < .01$). Also, the relative importance scores of the history of aggressive behavior attribute were significantly higher than the importance scores for the gender, age, and work history attributes ($p < .01$). No significant differences were found on the relative importance scores between the gender and age attributes, gender and work history, and age and work history attributes. The results of the 10 planned pair-wise comparisons indicate that as a group, occupational therapy students gave priority to the disability type attribute, followed by the history of aggressive behavior in their preference for placing a residential treatment center in their own neighborhood. Conversely, the age, work history, and gender attributes were given a nonsignificant amount of consideration.

Hotelling's $T^2$ was also utilized for the omnibus test in comparisons between the Year-One and the Year-Three student groups and the male and female student groups on the relative importance scores of the five corresponding attributes. The omnibus test was not significant for gender, Hotelling's $T^2 = 0.01$, $F(4, 103) = 0.27$, $ns$. The omnibus test was significant for the education effect, Hotelling's $T^2 = 0.10$, $F(4, 103) = 2.51$, $p < .05$. The result indicated that there are significant differences between Year-One and Year-Three students on the relative importance scores. Further post hoc comparisons were performed, the results indicated Year-Three students have significant higher relative importance scores for the employment attribute ($M = 17.16$, $SD = 13.35$) than Year-One students ($M = 11.16$, $SD = 7.17$), $t(106) = -2.98$, $p < .01$, suggesting Year-Three students give consideration to disability type, history of aggressive behavior, and employment status in their preferences for persons with disabilities to be served in placing a residential treatment facility in their neighborhood, whereas only disability type and history of aggressive behavior were important to Year-One students.

Part-Worth Scores

Part-worth scores indicate the influence of each attribute level on the respondent's preferences for persons with disabilities. High scores indicate more favorable attitude for that attribute level than low scores. A summary of the results is provided in Table 2.

Results for the total sample indicated that in the disability attribute levels, the physical disability level was preferable (part-worth score of 1.98) to the mental retardation level (-0.39), and the mental retardation level was preferable to the psychiatric disability level (-1.59). In the history of aggressive behavior levels, the no history level was preferred over no aggressive behavior in the past 5 years, and over no aggressive behavior in the past 3 years. In the employment attribute levels, clients who are employed are preferred over clients who are unemployed. In the gender attribute levels, females are preferred over male clients. In the levels of the age attribute, middle-aged adults are preferred more than older adults and older adults are preferred more than adolescent or young adults.

For both Year-One and Year-Three students, results indicated that at the disability attribute levels, the physical disability level was preferable (part-worth score of 1.89 and 2.08 respectively) to the mental retardation level (-0.38 and -0.40), and the mental retardation was preferable over the mental illness level (-1.51 and -1.68). In the gender attribute levels, females were preferred over male clients. In the levels of the age attribute, Year-One students preferred Table 2. Part-Worth (P-W) Utility Scores and Preference Orderings of Attribute Levels Ranked by Year-One and Year-Three Students

<table>
<thead>
<tr>
<th>Attribute Level</th>
<th>Year-1 Students</th>
<th>Year-3 Students</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P-W Score</td>
<td>Rank</td>
<td>P-W Score</td>
</tr>
<tr>
<td>Disability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Disability</td>
<td>1.89</td>
<td>1</td>
<td>2.08</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>-0.38</td>
<td>2</td>
<td>-0.40</td>
</tr>
<tr>
<td>Psychiatric Disability</td>
<td>-1.51</td>
<td>3</td>
<td>-1.68</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-.43</td>
<td>2</td>
<td>-0.39</td>
</tr>
<tr>
<td>Female</td>
<td>.43</td>
<td>1</td>
<td>.39</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescent/young adult</td>
<td>.10</td>
<td>2</td>
<td>-.72</td>
</tr>
<tr>
<td>Middle-aged adult</td>
<td>.13</td>
<td>1</td>
<td>.17</td>
</tr>
<tr>
<td>Older adult</td>
<td>-.23</td>
<td>3</td>
<td>.55</td>
</tr>
<tr>
<td>Work Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>.89</td>
<td>1</td>
<td>1.25</td>
</tr>
<tr>
<td>Unemployed</td>
<td>-.89</td>
<td>2</td>
<td>-1.25</td>
</tr>
<tr>
<td>History of Aggressive Behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No history of aggression</td>
<td>1.80</td>
<td>1</td>
<td>1.70</td>
</tr>
<tr>
<td>No history of aggression last 5 years</td>
<td>0.15</td>
<td>2</td>
<td>0.03</td>
</tr>
<tr>
<td>No history of aggression last 3 years</td>
<td>-1.95</td>
<td>3</td>
<td>-1.73</td>
</tr>
</tbody>
</table>

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middle-aged adults over young adults and young adults over older adults. Year-Three students preferred older adults to middle-aged adults to younger adults. In the employment attribute levels, both student groups preferred clients who were employed to clients who were unemployed. Finally in the history of aggressive behavior, the preference ordering for both groups was no history of aggressive behavior over no aggressive behavior in the past 5 years, and over no aggressive behavior in the past 5 years.

Discussion

The findings from the present study indicate that disability type and history of aggressive behavior contribute significantly to the preference or attitude formation of occupational therapy students in Hong Kong as a group. However, for Year-Three students, an additional factor (employment status) also contributes significantly to their preference or attitude formation. Preferences of the students were also identified from their different part-worth scores and rank ordering of the levels within each of the five attributes. Year-One and Year-Three students were very similar in their rank ordering of attribute levels, with the exception of age. Year-One students preferred middle-aged clients to older adults to adolescents or young adults. Year-Three students preferred older adults to middle-aged adults to adolescent or young adults. The ideal clients to be served by a residential treatment facility in their neighborhood for Year-One students were gainfully employed middle-aged female clients with physical disabilities and no history of aggressive behavior. For Year-Three students, the preferred clients were employed older females with physical disabilities and no history of aggressive behavior.

The present finding is consistent with previous findings with Chinese or Chinese-American high school and college samples indicating that: (a) persons with physical disabilities are most preferable in many social contexts, and (b) persons with mental illness are least preferred (e.g., Chan et al., 1988; Cheung, 1990). The patterns of the occupational therapy students also appear to be similar to those of the general public in Hong Kong (Equal Opportunities Commission, 1998; Ip et al., 1995). For example, employers had more positive attitudes toward workers with physical disabilities than those with intellectual or psychiatric disabilities (Ip et al., 1995). Similarly, previous studies have consistently found that American participants preferred persons with physical disabilities to persons with other disability types (e.g., mental illness and mental retardation) in many social situations and school settings (e.g., Gilfoyle & Gliner, 1985).

History of aggressive behavior is the second most important client characteristics variable in determining the placement of a residential treatment facility in the community. The attitudes of these Hong Kong occupational therapy students are consistent with the more severe stereotypes and prejudice of the general Chinese population toward persons with psychiatric disabilities. In Chinese culture, persons with disabilities are often viewed as a source of shame by their parents and may only be left at home (Tsang, Tam, Chan, & Cheung, 2003). As a result of cultural stigma, Hong Kong people probably have little opportunities to interact with persons with disabilities. Their exposures to persons with disabilities are mainly from the media and are usually on the rare occasions when a person with psychiatric illness has engaged in violent acts. Penn, Kommana, Mansfield, & Link (1999) also demonstrated that the attitudes of nonrehabilitation professionals toward the persons with psychiatric disorders were very much associated with prevalence of violent behavior.

Both male and female occupational therapy students also preferred females with disabilities to males with disabilities, within the context of specific client characteristics for placement of a residential treatment facility in their community. This may be related to the importance of the history of aggressive behavior factor in the preference formation of the occupational therapy students, as female clients may be perceived as less physically aggressive than male.

There is an occupational therapy education effect on attitude–preference formation within the context of this study. Work status was a significant consideration for Year-Three but not Year-One students. Also Year-Three students prefer older adult patients whereas Year-One students prefer middle-aged adult patients. The design of the bachelor of science in Occupational Therapy program in which the students were enrolled at the time of this study may have contributed to these differences. The Year-One curriculum is composed of traditional academic coursework and one 2-week clinical placement. Academic coursework covers mostly physiology, psychology, and anatomy, which are the scientific foundations to the program. There are fewer courses on studies of disabilities and occupational therapy. The 2-week clinical placement aims at orientation and provision of only brief contacts with persons with disabilities. In contrast, the Year-Two and Year-Three curriculum consists of academic courses on physical and psychosocial disabilities, interventions, and service provisions. There are three extensive clinical placements (one in Year-Two and two in Year-Three) lasting from 8 to 10 weeks, which engage the students in the actual practice of clinical skills. Year-Three students therefore may have a stronger understanding of the therapeutic values of work. However, didac-
tic coursework and clinical experience with persons with psychiatric disabilities in Year-Two and Year-Three students did not seem to change their negative attitudes toward persons with psychiatric disabilities.

A secondary purpose of this study was to determine whether conjoint analysis can be used as an alternative method for studying factors influencing attitudes toward persons with disabilities. The results appear to support the validity of conjoint analysis as a multiple dimension and multiple context approach to study attitudes toward persons with disabilities. Future research could include the study of additional sets of relevant attributes for predicting public attitudes toward persons with disabilities. For example, it may be argued that the definition of disability levels in the present study should be more clearly defined. The use of a more sophisticated definition of disability or use of specific disability categories (e.g., persons with traumatic head injury) and severity levels in future research should be considered. As mentioned, it may be more realistic to study societal attitudes toward persons with disabilities in context. For example, if the government of the Hong Kong Special Administrative Region considers placing a residential treatment facility in the community, conjoint measurements can be used to gauge the extent of public acceptance and to determine clients’ characteristics that will receive the least resistance from the community initially. Conjoint analysis can be used to study societal attitudes toward disability under multiple scenarios.

Because not all students perceived the five attributes used in the present study to be important for their preference-making processes, a preliminary procedure for attribute selections may be needed in future research design. For example, participants may be asked to write down the five most important attributes of persons with disabilities that they use for making their preference decisions. Researchers would then be able to use these important attributes to design their conjoint measurements, which may best meet research needs.

In summary, persons with physical disabilities and no history of aggressive behavior were preferred by students in this study. Conjoint analysis has the potential to augment the study of attitudes toward disabilities in occupational therapy research. Specifically, as an indirect measurement, conjoint analysis is less prone to social desirability influences. The trade-off method used in conjoint analysis to study person’s attitudes toward disability closely approximates human decision-making in real life. Hence, both conjoint measurements and conjoint analysis could increase the ability of occupational therapy researchers to understand factors contributing to the formation of attitudes—references in multiple social contexts. This understanding could provide insights for developing effective strategies for changing negative attitudes toward disabilities.

References


