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Chinese College Students' Attitudes Toward People with Intellectual Disabilities: Differences by
Study Major, Gender, Contact and Knowledge

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Abstract

Background: This study examined the relationship between college students' attitudes toward inclusion of people with intellectual disabilities (ID) by field of study, gender, age, personal contact and knowledge of ID.

Method: One hundred and forty students from an university of education and one hundred and thirty six medical students from another university took part in the study.

Results: Independent t-tests showed that gender had a main affect on students' attitudes toward inclusion. Female students expressed more positive attitudes than male students. Study major was not a factor affecting college students' attitudes toward inclusion. There was a mild positive association between attitudes toward integration and one's contact and knowledge regarding ID.

Conclusions: More studies need to be conducted to understand the relationship between people's attitudes toward inclusion and knowledge and contact of ID through constructing a new instrument for understanding in depth on participants' knowledge and contact.

Keywords: social inclusion, university, mental retardation, China

Chinese College Students' Attitudes Toward People with Intellectual Disabilities: Differences by
Study Major, Gender, Contact and Knowledge

There is a growing trend of inclusion of people with disabilities, including individuals with intellectual disabilities (ID), in the past few decades (Ouellette-Kuntz et al., 2010). China has one of the largest populations with disabilities in the world and it is estimated there are about 9.88 million people with ID in China (Wu et al., 2010). The rapid economic growth and social changes have enabled China to take actions for integrating people with disabilities (Hampton & Xiao, 2009). Moreover, in order to keep pace with the international trend of inclusion of people with disabilities into the community, policies or legislations regarding transportation, education, and employment have been mandated since the late 1980s (Xiao, 2005). Inclusion does not mean solely to place people with ID into an inclusive settings, it is also expected that people with and without ID can interact with each other.

Social interaction is very crucial to individuals with ID since an increase of social interaction with people without disabilities may enhance their quality of life (Cummins & Lau, 2003; Rillotta & Nettelbeck, 2007; Schmidt et al., 2010). However, a big challenge confront with inclusion is the negative attitudes from people without disabilities (Burge et al., 2007; Niu et al., 2005). One's positive attitude towards individuals with ID is a crucial component for enhancing social inclusion (Ouellette-Kuntz et al., 2010; Scior et al., 2010), and thus it is necessary to investigate factors affecting the attitude. A large amount of studies have been conducted to examine this issue and several variables (i.e. knowledge on ID, personal contact, gender, age, and study major) are identified as factors affecting attitudes of inclusion toward people with ID (Hampton & Xiao, 2008; Horner-Johnson et al., 2002; Tachibana, 2006).

Hampton and Xiao (2008) investigated the relationship between knowledge of ID and attitudes of integration among Chinese college students, the results indicated that students with more knowledge on ID had more favorable attitudes toward inclusion. Other earlier studies also concluded same results (e.g., Chan et al., 2002; Wong & Wong 2008; Yazbeck et al., 2004). A more positive attitude towards inclusion can also be found from people who had more contact with individuals with disabilities (Chan et al., 2002; Chen et al., 2002). For example, Chan and his colleagues (2002) found that college students with more interaction with people with special needs had less bias on this population.

Gender is another variable associated with one's attitude towards inclusion. Some studies (e.g., Krajewski & Flaherty, 2000; Yazbeck et al., 2004) indicated that females tend to express more positive attitudes toward individuals with ID. Hampton and Xiao (2008), however, demonstrated that there was no relationship between attitude and gender. Previous findings on the associations between attitudes of inclusion and age were also inconclusive (Nowicki & Sandieson, 2002). Nowicki and Sandieson (2002) held that the inconsistent findings can be due to the small range or large variability of ages in different studies.

Additionally, study major is an area which is relatively less explored as limited studies have been conducted to investigate this issue. Schwartz and Armony-Sivan (2001) compared the attitudes of students majoring in different subjects and it was found that social work students showed more positive inclusion attitudes than other students (i.e. law, natural science, and social science). Chan et al. (2002) demonstrated that college students studying at rehabilitation programme held more positive attitudes toward people with ID than students with business study major. It seems like students who are majoring in areas of helping professions like medicine,

education, social work would have more positive attitudes toward inclusion, compared to students majoring in hard sciences or business. There is a need for closer examination.

In summary, previous research findings on the association between gender and attitude of integration is inconclusive. Although substantial studies have been done as to investigate people's attitude toward inclusion, most of them were conducted in western countries (Scior, 2011). Thus, it would be important to "duplicate" similar studies in the Orient. In addition, there is a dearth of literature on investigating the attitudinal difference of inclusion between college students studying in medicine and education. Consequently, the purpose of this study was to extend the previous literature and the following research questions were to be addressed: (a) is there any difference on attitudes toward inclusion of people with ID in medical students and educational students? (b) is gender a factor affecting inclusion attitude? and (c) are personal contact and knowledge of ID related to attitude of inclusion?

Method

Participants

Participants of the study were a convenient sample of 280 undergraduate college students from two different universities. One is a university of education and the other one is a medical university. Both of them are located in the university town of Fuzhou (Fujian Province, People's Republic of China) and their academic performance is comparable according to the admission criteria. Normally, college students from these two universities need to spend four years to get a bachelor's degree. Of the participants, 144 (42 males, 102 females) were from a university of education with a mean age of 20.81 years ($SD = 0.98$). Medical university group consisted of 136 students (37 males, 99 females) and the average age was 21.52 years ($SD = 1.73$). All the

participants were either year 2 or year 3 students. No significant group differences were found in age, year of study, and gender ($p > .05$).

Measures

Instruments of the Mental Retardation Attitude Inventory-Revised (MRAI-R, Antonak & Harth, 1994) and the Exposure to the Mental Retardation (EMR, Siperstein et al., 2007) were used for data collection. The EMR is a dichotomous scale (*Yes = 1, No = 0*), consisting of eight questions that ask college students to indicate their knowledge and contact of ID. One sample item of the EMR is: "Have you ever watch about intellectual disabilities?" A higher score on EMR demonstrates more contact and knowledge on ID. The consistent reliability of EMR was .62 and it was recently applied by Siperstein et al (2007) for a U.S. national survey. The EMR was translated by two Chinese American graduate students majoring in special education and then the translated version was back-translated by two native English speakers. The original and back-translated versions were compared and modified (Brislin, 1980).

Students' attitudes of inclusion of individuals with ID were measured by MRAI-R. The MRAI-R is a 4-point Likert scale (*Strongly Disagree = 1, Strongly Agree = 4*), consisting of 29 items and a sample questions is: "I am willing for my child to have children who have ID as close friends". A higher score on MRAI-R suggests more favorable attitudes toward inclusion of people with ID. Although the original MRAI-R consists of four subscales (Antonak & Harth, 1994), its Chinese version was used as a unidimensional scale since the multidimensionality of the MRAI-R cannot be confirmed in Chinese population (Hampton & Xiao, 2008). The alpha reliability of the MRAI-R was .78 in Chinese college students (Hampton & Xiao, 2008). It should also note that the MRAI-R is the only valid scale for measuring Chinese people's attitudes toward inclusion of people with ID (Hampton & Xiao, 2008). Besides the above two

measures, additional items for collecting demographic data were also included in the survey. These items included study major, year of study, age, and gender.

Procedure

Permissions for conducting the study were obtained from the investigator's institution. All students were informed of the study purpose and their consents to join the study were obtained before the administration of the questionnaires. One-page questionnaires including instructions to complete the questionnaire, two scales (i.e. EMR and MRAI-R), and questions on study major, year of study, age, and gender were distributed to college students with the help of research assistants and college instructors. A total of 320 students were approached (160 from each university) and 280 completed the questionnaire with a return rate of 87.5% (144 from the university of education with 90.0% response rate, 136 from university of medicine with 85.0% response rate).

Data analysis

The questionnaires were scored and analyzed using SPSS version 18.0. Independent *t*-test was used for comparing the group differences on EMR and MRAI-R. The data in two groups was then pooled together and independent *t*-test was employed to test the effects of gender on EMR and MRAI-R. The relationships between age, EMR, and MRAI-R were examined through the Pearson's *r*. The effect size was estimated by using Cohen's *d* (Cohen, 1969).

Results

Table 1 demonstrates the mean differences of EMR and MRAI-R by study major, gender, and age. No differences were found on the EMR by study major and gender ($p > .05$, see Table 1). For the MRAI-R, there was also no difference by study major, but females expressed somewhat more positive attitudes toward inclusion than males ($p = .014$, $d = .33$, see Table 1).

Table 2 demonstrates the correlations among EMR, MRAI-R, and age. A positive association between MRAI-R and EMR was found ($r = .13, p < .05$), however, MRAIR was not associated with age ($p > .05$). There was also no correlation between EMR and age ($p > .05$).

Discussion

The result demonstrated that study major was not a factor affecting college students' attitudes toward inclusion of individuals with ID. No difference was found could be highly due to both groups (medicine and education) of our participants are more likely to involve in educational programmes for human service and to seek a career in human services (European Opinion Research Group, 2001; Horner-Johnson et al., 2002). That could be also why previous studies found students with different major field of studies showed difference on attitudes toward inclusion (Chan et al., 2002; Schwarz & Armony-Sivan, 2001). For example, more positive attitudes in students studying rehabilitation versus those major in business (Chan et al., 2002).

The mean of MRAI-R score was over 82 in both groups for this study, indicating our participants held less biased attitudes toward people with ID. The value of MRAI-R was higher than the other studies conducted in China (e.g., Mean MRAI-R = 78 for Hampton & Xiao, 2008) and in other countries (e.g., Mean MRAI-R = 53 for Yazbeck et al., 2004). Although a more positive attitude toward inclusion of people with ID was found, it is possible that there may be biased opinions due to the effect of social desirability (Stober, 2001) and that is why many similar previous studies have examined this potential bias (Scior, 2011). Thus, it is recommended that future studies should include a measure of social desirability to assess the validity of participants' responses.

Even though some previous studies demonstrated that younger people tended to express more positive attitudes on inclusion than elders (e.g., Krajewski & Flaherty, 2000; Ouellette-

Kuntz, et al., 2010); the present study showed no association between age and MRAI-R. This is consistent with findings from the study conducted by Hampton and Xiao (2008). The conflicting result on the correlation between age and inclusion attitude may be due to the small range age (i.e. age of participants ranged from 20-23 in present study; Nowicki & Sandieson, 2002).

There was a mild positive correlation between MRAI-R and EMR which suggests people who possess more knowledge and contact with individuals with ID would be more in favor of inclusion. Recent studies have also showed that people with more contact with individuals with ID tended to have a more favorable attitude towards integration (e.g., Chan et al., 2002; Siperstein, et al., 2007). MRAI-R was associated with EMR so that it was controversial to find that there was a gender difference on MRAI-R but no significant difference on EMR. One explanation is that the correlation between these two measures was too small (i.e. $r = .13$). That small correlation could be due to the low sensitivity of EMR to measure participants' knowledge and contact regarding ID, suggesting a need to substantially revise EMR or to construct new instruments to replace EMR. Future research may consider EMR as a multidimensional construct for measuring knowledge and contact separately (i.e. large overlap between knowledge and contact cannot be assumed). The new EMR should also be able to capture to what extent the participants contact people with ID (e.g., how often) instead of using a dichotomous rating scale (contact or not).

Limitations of the study

There are several limitations of this study. First, participants of this study were from a convenient sample. Thus, the generalizability of the results is questionable. However, findings of the present survey could guide for constructing another more advanced study in future. Secondly,

the responses by participants as to the attitudes toward inclusion of people with ID could be invalid due to social desirability effect (Stober, 2001).

Summary

Study major was not a factor affecting college students' attitudes toward inclusion of people with ID, however, gender can affect the attitudes of integration and females expressed more positive attitudes with individuals with ID than male students. There was a positive correlation between attitudes toward integration and personal contact and knowledge of ID. Future studies may consider constructing a new instrument for understanding in depth on participants' knowledge and contact regarding ID.

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Table

Table 1

Results of EMR and MRAI-R by University (Study Major) and Gender

	Group	N	Mean (SD)	Sig. (2-tailed)
EMR	Education	144	5.40 (1.64)	.927
	Medicine	135	5.41 (1.83)	
	Total	279	5.41 (1.73)	
EMR	Male	79	5.22 (1.66)	.249
	Female	200	5.48 (1.75)	
	Total	279	5.41 (1.73)	
MRAI-R	Education	144	82.66 (7.29)	.085
	Medicine	136	82.82 (6.96)	
	Total	280	82.74 (7.12)	
MRAI-R	Male	79	81.08 (6.70)	.014*
	Female	201	83.39 (7.19)	
	Total	280	82.74 (7.12)	

Note. *. $p < .05$; Education = Students from a University of Education, Medicine = Students from a University of Medicine.

Table 2

Pearson's Correlations among EMR, MRAI-R, and Age

	EMR	MRAI-R	age
EMR (n=279)	1		
MRAI-R(n=280)	.134*	1	
Age	.043	.038	1

Note. * $p < .05$ (2-tailed).