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Running title: Attitudes of Volunteers toward Inclusion

Effect of exposure to Special Olympic Games on attitudes of volunteers toward inclusion of people with intellectual disabilities

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Abstract

Background: The aim of this study was to examine the effect of volunteering for Special Olympics Games (SOG) on the attitudes of volunteers toward inclusion of people with intellectual disabilities (ID).

Method: A repeated measures design with three-week follow-up was used. There were 100 volunteers recruited for the study and 90 of them completed the study.

Results: It was revealed that a one-week exposure to the SOG improved volunteers' attitudes toward inclusion of people with ID significantly ($p = .016$). Females had more positive attitudes than males at all three time points of measures. The interaction effect of gender was not significant.

Conclusions: A one-week exposure to the SOG can enhance volunteers' positive attitudes toward inclusion of people with ID and this effect can maintain for up to a month.

Keywords: Intellectual Disability; Special Olympic Games; Inclusion; Volunteers.

Effect of exposure to Special Olympic Games on attitudes of volunteers toward inclusion of people with intellectual disabilities

Introduction

The World Health Organization (WHO) states that approximately three percent of the world population has intellectual disabilities (ID; as cited in Roswal, 2007). In China, it was estimated that the prevalence of ID was 0.75%, which translated to 9.88 million people (Wu et al., 2010). In the past few decades, the inclusion of individuals with disabilities has been advocated globally (Deng & Guo, 2007). Inclusion means not only inclusive education such as integrating students with disabilities in mainstream schools, but also social inclusion such as including people with disabilities into the community (Zhang & Xiao, 2008). Although legislations have provided equal rights of people with disabilities to access to education, transportation, and employment, there are negative public attitudes (e.g. discrimination) toward people with disabilities (Niu et al., 2005; Piercy et al., 2002; Sherrill, 2004). Previous findings indicated that people with ID were rated as the third least accepted disability by the society (Yuker, 1988). This could be due to factors such as the lack of knowledge on ID and culture differences (Yuker, 1988; Zhang & Xiao, 2008). There is a need to investigate factors that affect people's attitudes towards inclusion.

Previous studies examined attitudes toward people with ID in terms of differences in age, gender, education level, knowledge about disability, major, personal contact, and culture (Scior, 2011; Tachibana, 2006; Zhang & Xiao, 2008). In general, results for age were inconsistent and this may be due to the small range or large variability of participants' ages in studies (Nowicki, 2002). Females generally displayed more positive attitudes toward ID (Nowicki, 2002). People who had less knowledge on disabilities demonstrated more negative attitudes towards persons with ID (Chan et al., 2002; Hunt & Hunt, 2000; Laws & Kelly, 2005). Students who major in

rehabilitation or social work tended to be closer with people with ID than did business or law students (Chan et al., 2002; Schwartz & Armony-Sivan, 2001). People who had more exposure (i.e. more frequent contact) to individuals with ID tended to express more positive attitudes (Chan et al., 1988; Chen et al., 2002). Regarding the variable of culture, people from western countries were generally more positive about people with ID than the eastern countries (Horner-Johnson et al., 2002; Scior et al., 2010). This could be because of the more prevalent stigmatizing beliefs embedded in the eastern countries than in the western countries (Hatton et al., 2003).

Given the understanding of the above variables that were associated with attitudes toward individuals with ID, numerous intervention studies have been conducted. The intervention programmes from these studies can be divided into three main categories: (i) increase participants' knowledge on disability through education (e.g. coursework); (ii) increase participants' direct contact with people with disabilities; and (iii) combine both (i) and (ii).

Courses which focus on disabilities may be able to change students' attitudes toward individuals with disabilities (Adrian, 1997; Beattie et al., 1997; Campbell, Gilmore, & Caskelly, 2003), although increasing knowledge on disabilities through education does not necessarily lead to positive attitudes change (Emmanuelle et al., 2010; Forlin et al., 1999; Tait & Purdie, 2000). Attitudinal change can be achieved through education combined with contact between students with and without disabilities (Cook & Semmel, 1999; Maras & Brown, 2000). For example, Campbell et al. (2003) found that pre-service teachers' attitudes toward inclusion of students with Down syndrome were improved through a programme by combining information-based instruction and structured fieldwork experiences.

In a recent study by Rillotta and Nettelbeck (2007), the effect of awareness of disability programmes (ADP) on attitude change for inclusion in secondary school students were examined. Students who completed eight-session ADP (each session lasted for 45 min, over three weeks) reported higher positive attitudes than their peers in three-session ADP (each session lasted for 45 min, over one week) or without training. On the contrary, Fritz (1990) demonstrated that a short session (one time contact) of friendship awareness programme was not able to enhance students' social acceptance of students with ID. One possible explanation for the different findings between these two studies is that the varying length of intervention. Some nonacademic programmes such as Unified Sports (e.g. Baran et al., 2009), and the Paralympic School Day (e.g. Panagiotou et al., 2008) have shown to enhance the integration of children with ID.

A common characteristic of above intervention programmes is that they created opportunity for exposure or interaction between students or people with or without disabilities. The "Mere Exposure Effect" theory holds that "repeated exposure to something is sufficient to change an individual's attitude towards it" (Zajonc, 2001). Cummins and Lau (2003) stated that interactions with individuals with ID generally tend to promote anti-bias towards them, which is the basis of efforts for attitudinal change. In fact, the point noted by Cummins and Lau is quite similar with Zajonc's "Mere Exposure Effect"; and to some extent, exposure promotes attitude changes (Zajonc, 2001).

The movement of Special Olympics was initiated by Eunice Kennedy Shriver in 1962 and the first International Special Olympics Games (SOG) was held in 1968. SOG has become one of the most important sports meets in the world (Siperstein et al., 2005). SOG can be a good platform for people with and without ID to exposure, interact, and know each other. Through volunteering for SOG, there are opportunities for people without ID to better understanding

people with ID and promote greater acceptance and friendship (Siperstein et al., 2007). However, there were a few cross-sectional and qualitative studies found that negative attitudes might develop and reinforce in volunteers after SOG (see Storey, 2004 for a review). This highlighted the need to further examine this issue.

There is a lack of intervention studies to determine whether exposure to the SOG can change attitudes towards inclusion of people with ID among volunteers. An experimental design is useful for determining causality (e.g. the change of a volunteer's attitude is due to volunteering for SOG rather than other causes) compared to cross-sectional designs. Moreover, the methodological quality of most previous intervention studies for enhancing lay people's attitudes of inclusion toward ID is limited (e.g. fail to collect baseline data and without a control group) and lack of studies use follow-up designs (see Scior, 2011 for a review). Thus, the purpose of the current study was to examine the effect of exposure to SOG on attitude change of volunteers toward inclusion of people with ID through an intervention with a three-week follow-up period. It was hypothesized that a volunteer's attitude towards inclusion of individuals with ID can be enhanced through a one-week exposure to the SOG. A positive result from this study can guide us to plan intervention programmes to enhance social inclusion and thus to improve the quality of life of individuals with ID (Cummins & Lau, 2003).

Method

Participants

Participants for this study were a convenient sampling of college students ($N = 100$). Half of the participants ($n = 50$) were volunteers for the 5th Special Olympics Games (SOG) of the People's Republic of China and the other half were not. Volunteers would deliver service in the coming SOG events. Participants' ages ranged from 18 to 25 years ($M = 21.03$, $SD = 1.51$), 37 males

(37%) and 63 females (63%). The two groups were similar in terms of gender and age. All of the participants were college students from the same university located in the southeast of China.

The participants were majoring in either sport science, biology, visual arts, or Chinese. No participants were majoring in special education or related subjects.

Instrument

The Mental Retardation Attitude Inventory-Revised (MRAI-R, Antonak & Harth, 1994) was used for assessing participants' attitudes of inclusion toward people with ID. It consisted of 29 items and a sample question of the MRAI-R was: "School officials should not place children with intellectual disabilities and children without intellectual disabilities in the same classes". A 4-point Likert scale (*1 = Strongly Disagree, and 4 = Strongly Agree*) was used. A total score of the MRAI-R is the sum of the responses given to the 29 items. A higher score indicates more favorable attitude towards inclusion of people with ID. The English version of MRAI-R has been validated for use in the USA (Zhang & Xiao, 2009). The Cronbach alpha reliability of the MRAI-R was .78 in USA population (Antonak & Harth, 1994). The MRAI-R has also been validated and used in previous studies with Chinese college students (e.g. Li & Wu, 2012; Zhang & Xiao, 2008; Zhang & Xiao, 2009). It is worth to note that this inventory is the only valid scale for measuring Chinese college students' attitudes toward inclusion of people with ID and the alpha reliability of the MRAI-R in Chinese college students was .82 (Zhang & Xiao, 2008).

Procedure

The study was a repeated measures design. The instrument (MRAI-R) was administered in three time points for each participant (i.e. T_0 =before delivering service in SOG, T_1 = one-week after delivering service in SOG, and T_2 =four-week after delivering service in SOG). The questionnaire was first administrated to participants in the experimental group in an assembly before the SOG.

Participants in the control group completed the questionnaire in another assembly after informed consents were collected. Instructions for completing the instrument for both groups were given by the same research assistants. After that, participants in the experimental group (volunteers) delivered one-week service in the SOG events including bocce, football, and track and field. They played various roles in the service, such as referees, administrative support officers, technical support officers, and cheer rooters. The number and the length of service sessions for volunteers were different, depending on the roles that they played during the one-week service. Participants in the control group received no treatment. The groups showed no difference in MRAI-R scores in baseline test (i.e. T_0). The posttests (i.e. T_1 and T_2) were administrated through emails. Ninety participants completed the entire three tests with a 10% attrition rate (7 males and 3 females dropped out during the four-week follow-up period). Permissions for administrating the questionnaires were obtained both from research committee of investigators' institution and the 5th SOG Organizing Committee.

Data analysis

Repeated-Measures Analysis of Variance (ANOVA) was used to compare the differences of MRAI-R scores among the three time points of measures. Grouping and gender were entered as the between-subjects factors. A pairwise comparison was conducted to assess the mean differences of the MRAI-R in different time points for the experimental group. Because of the small age range of the participants, age was not used as a factor in the analysis. The coefficient of .05 was set as the significant level for all analyses.

Results

Volunteers' MRAI-R scores were examined in a 2 (Gender) \times 2 (Group) \times 3 (Time) factorial analysis of variance, with repeated measures on the third factor (Time). The mean scores and

standard deviations are shown in Table 1. The MRAI-R scores increased at T_1 and T_2 , compared with T_0 . The experimental group demonstrated a higher score on MRAI-R than the control group in all three-time points. In addition, the score of MRAI-R at T_3 , although higher than at T_1 , was slight lower than at T_2 for the experimental group.

In terms of the gender effects, there was a trend that females had more positive attitudes about inclusion than males in both groups in all the three time points. However, both male and female participants in the experimental group improved their attitudes after delivering service to the athletes in the SOG.

Mauchly's test indicated that there was a violation of assumption of sphericity, $\chi^2(2) = 50.15, p < .05$, therefore, the degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\varepsilon = .69$). The result of the ANOVA revealed that there was a significant main effect for Time, $F(1.38, 118.98) = 12.36, p < .001, \eta^2 = .13$. However, there was no significant Time and Gender interaction ($p = .82$). A Time and Group interaction effect was detected ($p = .016$). Multiple comparisons revealed that attitudes were significantly more positive at T_1 ($p = .003$) and T_2 ($p = .034$) in the experimental group, compared to the control group.

Discussion

This study examined the effect of exposure to SOG on volunteers' attitudes toward the inclusion of people with ID. It was revealed that volunteers' attitudes could be enhanced through a one-week exposure to SOG. It was found that although there was a slight decrease in the MRAI-R score at T_2 compared with T_1 , the MRAI-R score at T_2 was still significantly higher than at T_0 , indicating the effect of exposure to SOG on attitude change toward inclusion could maintain for a month. The decrease in the MRAI-R score at T_2 could be due to the cease of the exposure (i.e. service delivery in SOG).

Gender was another study variable in the present study, we found that there was no time by gender interaction effect on attitude change towards inclusion of people with ID. This was not consistent with the findings by Xafopoulos et al. (2009). They found that only girls changed their attitudes toward inclusion through the “Paralympic School Day” programme, while the boys did not change their attitudes. The different types of the intervention programme may contribute to this inconsistent finding.

Despite the conflicting finding, the current study found that females displayed more favorable attitudes toward people with ID compared to their male counterparts, which was consistent with the literature (e.g. Nowicki, 2002). Regardless of the gender, the volunteers improved their attitudes toward people with ID after a one-week exposure to SOG. This implies that exposure to SOG can be an effective way for enhancing social inclusion. This finding is very encouraging as there are a large number of SOG events being held around the world annually and it is believed that the exposure or contact with people with ID through SOG events or programmes can contribute to positive attitude change among those people without disabilities (Chan et al., 1988; Chen et al., 2002; Zajonc, 2001).

Freeman (2000) noted that by simply put people with and without disabilities together may not guarantee to achieve social acceptance. This is because different experiences of contact among people with and without ID may lead to different consequences. Specifically, positive contact experiences increase social inclusion (Hall & Minnes, 1999), whereas negative contact experiences decrease social integration (Tachibana, 2005). Consequently, the change of volunteers’ attitudes toward inclusion may depend on the nature of exposure (e.g. positive or negative contact experiences) that occurred during the service delivery. Although this was the first experimental study to examine the effect of SOG exposure on lay people’s attitudes about

inclusion of individuals with ID, the nature of volunteers' contact with people with ID was not measured so that we are not able to determine whether there was a gender difference in terms of the nature of contact. Female volunteers may have more exposure to people with ID that lead them to have more favorable attitudes than males, which could be the reason why female volunteers had higher MRAI-R scores than males.

In summary, one significant finding of this study was that we found volunteers' attitudes toward inclusion of people with ID could be enhanced through a one-week exposure to the SOG. Another contribution was that a follow-up design was used in this study and we found that the positive effect of exposure on inclusion could maintain for at least a month. On the other hand, this exploratory study did not examine how this effect occurred. Future study may consider investigating the nature of the exposure or interaction between the people with and without ID. In other words, it would be useful to examine to what extent (e.g. one type of exposure or combination of different types of exposure, and positive or negative contact experiences) volunteers are more likely to improve their attitudes toward inclusion. Alternatively, it may be useful to interview volunteers about the possible reasons that lead to positive attitudes and in what conditions the positive effects may persist. It would also be interesting to investigate the post-programme effect of exposure to SOG with a longer period of follow-up (e.g. 6 months).

To conclude, this study shows that it is important for policy makers, social workers, and physical educators to create interaction opportunities between people with and without ID for better promoting social inclusion in future.

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Table
Table 1

Descriptive Statistics of MRAI-R Scores (N = 90)

	Gender	Mean (SD)	Gender	Mean (SD)
	Experimental Group		Control Group	
T ₀	Male (n = 14)	79.00 (7.15)	Male (n = 16)	76.81 (8.86)
	Female (n = 28)	80.04 (6.51)	Female (n = 32)	77.28 (7.00)
	Total (n = 42)	79.69 (6.66)	Total (n = 48)	77.13 (7.58)
T ₁	Male (n = 14)	85.36 (10.10)	Male (n = 16)	77.69 (9.39)
	Female (n = 28)	86.86 (7.71)	Female (n = 32)	79.19 (6.37)
	Total (n = 42)	86.38 (8.49)	Total (n = 48)	78.69 (7.44)
T ₂	Male (n = 14)	83.36 (8.21)	Male (n = 16)	77.94 (7.81)
	Female (n = 28)	84.89 (7.93)	Female (n = 32)	78.56 (8.63)
	Total (n = 42)	84.38 (7.95)	Total (n = 48)	78.35 (8.28)

Note. T₀ = baseline test, T₁ = 1 week after Special Olympic Games, and T₂ = 4-week after Special Olympic Games