

Contact and knowledge as predictors of attitudes toward individuals with intellectual disabilities

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Abstract

Understanding attitudes that may lead to barriers to equality can help enhance social inclusion and quality of life for individuals with intellectual disabilities. The current study examined multidimensional attitudes toward individuals with intellectual disabilities. We expected that those with more knowledge and greater quantity and quality of contact with people with intellectual disabilities would have more positive attitudes toward this social group. Hierarchical multiple regressions revealed that greater knowledge and quantity of contact were unrelated to attitudes. Greater quality of contact, however, was associated with more positive attitudes. These findings add support to previous findings that positive experiences may lead to less intergroup anxiety, less hostility, and less avoidance of outgroups.

Keywords

attitudes, contact, discrimination, intellectual disabilities, prejudice

Research has shown that prejudice and discrimination occur toward individuals with intellectual disabilities and that these individuals are aware of this differential treatment (Abbott & McConkey, 2006; Cooney, Jahoda, Gumley, & Knott, 2006;

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Gorfin & McGlaughlin, 2005), which may result in individuals with intellectual disabilities experiencing negative self-evaluations, feelings of powerlessness, and frustration (Jahoda & Markova, 2004). Prejudice and discrimination toward individuals with intellectual disabilities may negatively influence their overall quality of life in areas such as education, employment, housing, and everyday interactions with the general public (Siperstein, Norins, & Corbin, 2003). Studying variables related to attitudes toward individuals with intellectual disabilities provides insight into the attitudes that may serve as barriers to their quality of life and inclusion in their communities.

We are taking a perceiver-focused perspective in examining predictors of attitudes toward individuals with intellectual disabilities. That is, we are interested in examining individual difference variables that would influence perceptions of persons with intellectual disabilities. The social psychological literature has identified several factors that influence attitudes toward many social groups. Contact in particular has been the focus of many studies. In regard to his contention that acquaintance with outgroup members will lessen negative attitudes and hostility toward that group, Allport (1954) noted that contact between social groups may decrease prejudice. Many studies, including a meta-analysis (Pettigrew & Tropp, 2006), have tested this hypothesis and have found varying degrees of support for intergroup contact theory. The results of the meta-analysis revealed that greater intergroup contact was related to less prejudice and that these effects generalized to outgroup members who were not involved in the immediate contact situation (i.e., within and across situations, toward the whole outgroup, and to other outgroups).

However, simply having contact with another social group may not always have positive outcomes. The distinction between the quantity of contact versus the quality of that contact then becomes an important factor to consider. Research focusing on attitudes toward racial groups has found that the quality of contact, operationalized as the positivity or negativity of the experiences that one has had with members of an outgroup, may be more important than the quantity of contact with members of an outgroup. Plant and Devine (2003) found that greater quantity of contact with Blacks was unrelated to how positive White participants believed future interactions with Blacks would be. They did, however, find that White participants who reported having more positive experiences with Blacks thought that future interactions with Blacks would be more positive. Further, they also had less anticipated anxiety and were less likely to avoid future interactions with Blacks. Thus, it may not be the quantity of contact with outgroup members that is related to expectations about future interactions with that outgroup, rather it may be the overall *quality* of the experience one has with outgroup members that determines outcome expectancies, anxiety, and future interactions with members of the outgroup.

Other than the quantity and quality of contact, knowledge about the social group of interest has also been investigated as a predictor of attitudes. Allport (1954) stated that knowledge and acquaintance with outgroups should lessen negative attitudes and hostility toward that group. Since then, researchers have tested and found support for Allport's hypothesis. Specifically, studies have found that increased knowledge about different racial groups (e.g., McClelland & Linnander, 2006; Preston & Robinson, 1974) and gay men and lesbians (e.g., Lance, 1992; Riggle, Ellis, & Crawford, 1996) is related to more positive attitudes toward that group.

Notably, many studies have examined quantity of contact with individuals with intellectual disabilities (e.g., Akrami, Ekehammar, Claesson, & Sonnander, 2006; Hall & Minnes, 1999; Krajewski & Flaherty, 2000; Yazbeck, McVilly, & Parmenter, 2004), quality of contact with individuals with intellectual disabilities (e.g., Hall & Minnes, 1999; Nosse & Gavin, 1991; Palmerton & Frumkin, 1969), and knowledge about individuals with intellectual disabilities (e.g., Akrami et al., 2006; Campbell & Gilmore, 2003; Hunt & Hunt, 2004; Krajewski & Flaherty, 2000) as predictors of attitudes toward individuals with intellectual disabilities with mixed results; however, none to date have examined all three of these predictors in one study using a single sample of participants. All three of these predictors should be highly related in that an individual who knows several individuals with intellectual disabilities (i.e., quantity of contact) may also have positive experiences with the individuals (i.e., quality of contact), and from these relationships gain more knowledge about intellectual disabilities, which should then increase the likelihood that he or she has positive attitudes toward individuals with intellectual disabilities. Negative attitudes then may be more likely when an individual does not know many individuals with intellectual disabilities, therefore reducing the number of positive experiences with and opportunities to learn about individuals with intellectual disabilities. Therefore, assessing interrelated predictors becomes important in determining which variable has a greater influence on attitudes toward individuals with intellectual disabilities. Specifically, examining all three predictors in a single analysis will demonstrate which variable accounts for the most variance in predicting attitudes toward individuals with intellectual disabilities.

Examining variables related to attitudes toward individuals with intellectual disabilities becomes important when we consider a few points. Firstly, social psychological literature has found that individuals perceive that these negative attitudes are less acceptable to have than attitudes toward other social groups; yet, negative attitudes still persist. Research has shown that individuals believe that it is less acceptable to be prejudiced toward individuals with intellectual disabilities (Crandall, Eshleman, & O'Brien, 2002). In addition, although social psychologists recognize the importance of studying attitudes toward stigmatized groups, this research typically focuses on attitudes toward racial and ethnic groups (e.g., Dovidio & Gaertner, 2000), women (e.g., Glick & Fiske, 2001), gay men and lesbians (e.g., Herek, 2000), and religious groups (e.g., Rowatt, Franklin, & Cotton, 2005).

Secondly, the majority of the research has focused on children's attitudes toward their peers with intellectual disabilities. This prior research has investigated how children without intellectual disabilities treat children with intellectual disabilities, focusing on aspects such as friendship intentions between the two groups and the differences in social development between the two groups of children (for a review, see Fishbein, 2002; Siperstein, Norins, & Mohler, 2007). Researchers have emphasized that the focus has been on children's attitudes toward their peers and that there are, "a limited number of studies . . . focused on attitudes toward adults with intellectual disabilities and their integration into wider society" (Yazbeck et al., 2004, p. 99). Within adult populations, the study of attitudes toward individuals with intellectual disabilities is an area that, until recently, has received little empirical attention. In the past several years, researchers have focused their attention on studying adults' attitudes toward individuals with

intellectual disabilities (e.g., Ahlborn, Panek, & Jungers, 2008; Panek & Jungers, 2008; Siperstein et al., 2003). However, this body of knowledge is still growing, leaving much to learn about how adults perceive individuals with intellectual disabilities. Further, by limiting research to populations within public educational systems (i.e., elementary and high schools), it is not empirically clear how individuals with intellectual disabilities are perceived once they have graduated or have surpassed the age limitations that would allow them to continue attending public schools. Outside of special education programs, those with intellectual disabilities may have less clear societal roles, making attitudes toward these adults an important factor to study.

The current study will focus on attitudes toward individuals with intellectual disabilities in areas beyond the public educational system. We will examine multi-dimensional attitudes toward individuals with intellectual disabilities in relation to their knowledge about, reported frequency of contact with, and reported positivity or negativity of contact with individuals with intellectual disabilities. When discussing intellectual disabilities, the definition that will be used is the definition outlined by the American Association on Intellectual and Developmental Disabilities (AAIDD). Thus, "intellectual disability is characterized by significant limitations both in intellectual functioning, and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills" (Schalock, Luckasson, & Shogren, 2007, p. 118).

The current study examined all three predictors (i.e., knowledge, quantity of contact, and quality of contact) in a single study in relation to attitudes toward individuals with intellectual disabilities. Hypotheses were formulated based on intergroup contact theory (Allport, 1954; Pettigrew & Tropp, 2006) and the findings regarding knowledge about, greater contact with, and greater quality of contact with various social groups. For our study, we predicted that, after controlling for social desirability and sex, more knowledge about, greater quantity of contact with, and greater quality of contact with people with intellectual disabilities will be associated with greater positive attitudes toward individuals with intellectual disabilities. By exploring each of these predictors in relation to attitudes toward individuals with intellectual disabilities, this study will provide insight into factors that may be related to the overall quality of life experienced by those with intellectual disabilities (Siperstein et al., 2003).

Method

Participants

Undergraduate students ($N = 125$) participated in this study in exchange for credit toward partial fulfillment of their general psychology research participation requirement. The majority of the participants were female (62.4%), White (85.6%), and in their first year of college (70.4%). The mean age of participants was 18.91 ($SD = 1.99$).

Measures

Attitudes toward individuals with intellectual disabilities. The Mental Retardation Attitude Inventory- Revised (MRAI-R; Antonak & Harth, 1994) was used to assess participants' overall attitudes toward individuals with intellectual disabilities. This measure ($\alpha = .88$)

has 29 items and consists of four subscales. Higher scores on the overall measure and each of the subscales indicate positive attitudes toward individuals with intellectual disabilities. The Integration–Segregation subscale ($\alpha = .82$) has seven items pertaining to the integration and segregation of individuals with intellectual disabilities into schools and the workplace (e.g., *The child who has an intellectual disability should be integrated into regular classes in school*). The Social Distance subscale ($\alpha = .78$) has eight items pertaining to attitudes about living or being in close social proximity to individuals with intellectual disabilities (e.g., *I have no objection to attending the movies or play in the company of people who have intellectual disabilities*). The Private Rights subscale ($\alpha = .63$) has seven items pertaining to private or civil rights of individuals with intellectual disabilities (e.g., *Real estate agents should be required to show homes to families with children with intellectual disabilities regardless of the desires of the homeowners*). The Subtle Derogatory Beliefs subscale ($\alpha = .77$) has seven items pertaining to unfavorable attributes about individuals with intellectual disabilities (e.g., *People with intellectual disabilities are not yet ready to practice the self-control that goes with social equality with people who do not have intellectual disabilities*). Participants responded using a 1 (*strongly disagree*) to 9 (*strongly agree*) Likert-type scale.

Quantity of contact with individuals with intellectual disabilities. Nine items ($\alpha = .74$) were used to assess the amount of previous experiences, or quantity of contact, individuals have had with individuals with intellectual disabilities. Four of these items have been adapted from previous research on racial interactions (e.g., *In the past, I have rarely interacted with individuals with intellectual disabilities*; Plant & Devine, 2003) and five were created for this study (e.g., *In high school, I had frequent interactions with people with intellectual disabilities*). Participants responded using a 1 (*strongly disagree*) to 9 (*strongly agree*) Likert-type scale, and higher scores indicated a high quantity of contact with individuals with intellectual disabilities.

Quality of contact with individuals with intellectual disabilities. Six items ($\alpha = .90$) were used to assess the quality of the interactions that individuals have had with individuals with intellectual disabilities. Three of these items have been adapted from previous research on racial interactions (e.g., *In the past, my experiences with individuals with intellectual disabilities have been pleasant*; Plant & Devine, 2003) and three were created for this study (e.g., *Overall I have had positive experiences with people with intellectual disabilities*). Participants responded using a 1 (*strongly disagree*) to 9 (*strongly agree*) Likert-type scale, and higher scores indicated a high quality of contact with individuals with intellectual disabilities.

Knowledge about intellectual disabilities. Eleven items ($\alpha = .81$) were created for this study to assess the amount of knowledge individuals perceived to have about individuals with intellectual disabilities (e.g., *I think I know more about intellectual disabilities than other people*). Participants responded using a 1 (*strongly disagree*) to 9 (*strongly agree*) Likert-type scale, and higher scores indicated having more knowledge about individuals with intellectual disabilities.

Social desirability. The Marlowe–Crowne (Crowne & Marlowe, 1964) scale of social desirability ($\alpha = .77$) was used to control for impression management. This scale consists of 33 true and false items, such as *I have never intensely disliked someone*. Greater agreement with socially desirable items resulted in higher scores on the scale and indicated a greater need for social approval.

Procedure

After reading and signing an informed consent form, participants completed the measures examining attitudes toward individuals with intellectual disabilities, predictors of attitudes toward individuals with intellectual disabilities, demographic items, and a social desirability scale in approximately 30 minutes. They then were debriefed and thanked for their time.

Results

Table 1 provides the means and standard deviations for each of the predictors (i.e., quantity and quality of contact and knowledge) and criterion measures (i.e., MRAI-R and subscale scores). In addition, Table 1 provides correlations among these variables. Although predictor variable scores were significantly correlated with each other and criterion measures, the correlation values do not suggest that the measures are redundant with each other. Further, in the regression analyses conducted below, the variance inflation factor (VIF) values for each of the predictors in the regression models were low (<1.70), indicating that multicollinearity was not a concern.

To test the hypothesis that quantity and quality of contact with individuals with intellectual disabilities and knowledge about intellectual disabilities predict attitudes toward individuals with intellectual disabilities, we conducted two-step hierarchical multiple regressions. In the first step, we controlled for both social desirability and sex differences and in the second step, we entered quantity of contact, quality of contact, and knowledge scores to determine the extent to which these variables uniquely predicted attitudes toward individuals with intellectual disabilities. All statistics for regression analyses are shown in Table 2.

The results revealed that in the first step of the regression analyses, social desirability and sex did not predict attitudes toward individuals with intellectual disabilities on the overall MRAI-R scale. However, as predicted, the addition of the second step was significant. Examining the regression coefficients, it appears that quality of contact uniquely and significantly predicted attitudes toward individuals with intellectual disabilities, whereas quantity of contact and knowledge did not. This suggests that more positive attitudes toward individuals with intellectual disabilities, as assessed by the MRAI-R, are related to greater quality of contact with individuals with intellectual disabilities but not with more quantity of contact or knowledge about intellectual disabilities.

A similar pattern emerges when examining each of the MRAI-R subscales; these effects are not surprising given that these four subscales are contained within the overall attitude scale. For each of the four subscales, social desirability and sex did not predict attitudes toward individuals with intellectual disabilities. Again, the addition of the

Table 1. Means, Standard Deviations, and Correlations between Predictor and Criterion Measures

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Social Desirability			—									
2. Participant Sex			-.01	—								
3. Quantity of Contact	4.13	1.47	.07	-.18	—							
4. Quality of Contact	6.10	1.79	.14	-.07	.54***	—						
5. Knowledge	3.89	1.89	-.05	-.04	.58***	.55***	—					
6. Integration-Segregation	5.68	1.56	.03	.19*	.32***	.59***	.35***	—				
7. Social Distance	7.67	1.07	.13	.08	.23**	.54***	.21*	.49***	—			
8. Private Rights	6.54	1.36	.17	.20*	.19*	.39***	.21*	.36***	.49***	—		
9. Subtle Derogatory Beliefs	6.01	1.35	-.14	.09	.25**	.32***	.22*	.47***	.49***	.36***	—	
10. Overall MRAL-R score	6.53	1.01	.05	.19*	.34***	.62***	.34***	.78**	.79***	.72***	.76***	—

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2. Summary of Hierarchical Regression Analyses Predicting Attitudes toward Individuals with Intellectual Disabilities

Scale	Step	Predictor variable	R^2	ΔR^2	β
Attitudes toward Individuals with Intellectual Disabilities (MRAI-R)					
	Step 1		.02	.02	
		Social Desirability			.04
		Participant Sex			.14
	Step 2		.45***	.42***	
		Quantity of Contact			.07
		Quality of Contact			.64***
		Knowledge			-.03
Integration-Segregation Subscale					
	Step 1		.03	.03	
		Social Desirability			.01
		Participant Sex			.18
	Step 2		.39***	.36***	
		Quantity of Contact			.02
		Quality of Contact			.59***
		Knowledge			.01
Social Distance Subscale					
	Step 1		.02	.02	
		Social Desirability			.13
		Participant Sex			.01
	Step 2		.33***	.31***	
		Quantity of Contact			.03
		Quality of Contact			.61***
		Knowledge			-.12
Private Rights Subscale					
	Step 1		.05	.05	
		Social Desirability			.16
		Participant Sex			.15
	Step 2		.22***	.17***	
		Quantity of Contact			.000
		Quality of Contact			.40***
		Knowledge			.04
Subtle Derogatory Beliefs Subscale					
	Step 1		.02	.02	
		Social Desirability			-.14
		Participant Sex			.05
	Step 2		.14**	.12**	
		Quantity of Contact			.11
		Quality of Contact			.29*
		Knowledge			-.003

* $p < .05$, ** $p < .01$, *** $p < .001$

second step was significant for each of the four subscales. Quality of contact again uniquely and significantly predicted attitudes toward individuals with intellectual disabilities, whereas quantity of contact and knowledge did not. Greater quality of contact

with individuals with intellectual disabilities, but not quantity of contact or knowledge about intellectual disabilities, predicted more positive attitudes toward individuals with intellectual disabilities as assessed by the Integration–Segregation, Social Distance, Private Rights, and Subtle Derogatory Beliefs subscales.

Discussion

This study examined quantity of contact, quality of contact, and knowledge as predictors of attitudes toward individuals with intellectual disabilities. Overall, the results consistently demonstrated that greater quality of contact uniquely predicted more positive attitudes toward individuals with intellectual disabilities. Greater quantity of contact and knowledge, however, were unrelated to attitudes toward individuals with intellectual disabilities. These results were found after controlling for participant sex and social desirability, neither of which were related to attitudes toward individuals with intellectual disabilities.

These results suggest that although quantity of contact, quality of contact, and knowledge are interrelated constructs, quality of contact is an important variable in predicting individuals' attitudes toward individuals with intellectual disabilities. That is, it may be the quality of previous interactions, not the number of interactions or the how much a person knows about intellectual disabilities that determines whether or not an individual will have positive or negative attitudes and behaviors toward individuals with intellectual disabilities. Further, this effect was found on the overall attitude measure and each of its subscales. Quality of contact then not only predicted the most variance in overall attitudes toward individuals with intellectual disabilities, but also was related to more support for individuals with intellectual disabilities to be integrated into schools and the workplace, greater comfort living or being in close social proximity to individuals with intellectual disabilities, greater support for the private and civil rights of individuals with intellectual disabilities, and attribution of more positive attributes to individuals with intellectual disabilities.

The results of this study are less consistent with intergroup contact theory (Allport 1954; Pettigrew & Tropp, 2006) in that simply having contact with individuals with intellectual disabilities was unrelated to attitudes toward this group. However, our results are consistent with those found by Plant and Devine (2003), who found that White participants' previous experiences with Blacks determined their beliefs about future interactions; those who had more positive experiences believed that their future interactions would also be positive and were less likely to avoid interactions. Likewise we found that reporting greater positive experiences with individuals with intellectual disabilities predicted more positive attitudes. This study also contributes to the social psychological literature examining attitudes toward various social groups (e.g., Crandall et al., 2002; Dovidio & Gaertner, 2000; Glick & Fiske, 2001; Herek, 2000; Rowatt et al., 2005) and the growing literature that examines adults' attitudes toward individuals with intellectual disabilities (e.g., Ahlborn et al., 2008; Panek & Jungers, 2008; Siperstein et al., 2003; Yazbeck et al., 2004).

There are, however, a few limitations of this study that should be noted. One concern might be that participants in this study responded to items about individuals with

intellectual disabilities in general rather than individuals with specific types of intellectual disabilities, which could have influenced participants' responses to items on the measure. However, this decision to assess attitudes toward individuals with intellectual disabilities in general was based on current research in this area, which often does not assess attitudes toward specific intellectual disabilities (e.g., Ahlborn et al., 2008; Akrami et al., 2006; Hunt & Hunt, 2004; Krajewski & Flaherty, 2000; Nosse & Gavin, 1991; Panek & Jungers, 2008; Yazbeck et al., 2004) and participants were provided with a definition of intellectual disability based on the current definition outlined by the AAIDD (Schalock et al., 2007) to reduce any uncertainty regarding the term. Future research may benefit from varying the type of intellectual disability in order to examine whether there are differences in attitudes based on type of disability. Finally, the design of the current study is truly correlational and employs self-report measures. Therefore, we do not know if quantity and quality of contact or knowledge about individuals with intellectual disabilities causes more positive or negative attitudes toward individuals with intellectual disabilities, nor do we know if these attitudes will predict actual behaviors toward individuals with intellectual disabilities. Future studies establishing these measures' predictive validity will help in determining the relationship between attitudes determined by these items and actual behaviors. Programs and media campaigns that aim to increase more positive attitudes toward individuals with intellectual disabilities and promote greater inclusion into communities (for a review see Siperstein et al., 2007) might be best suited to directly and ethically test how quality of contact, over quantity of contact and knowledge, might lead to an increase in positive attitudes toward individuals with intellectual disabilities.

The results of this study demonstrated that knowledge about and quantity of contact with individuals with intellectual disabilities were not uniquely related to attitudes toward those with intellectual disabilities. Greater quality of contact, however, was found to be uniquely associated with more positive attitudes toward individuals with intellectual disabilities. Previous studies, which have focused on children's attitudes and behavioral intentions within public educational systems, have limited our understanding of how individuals with intellectual disabilities are perceived once they have discontinued their public education. By changing the focus of whose attitudes we are assessing we can develop a clearer understanding of the variables that may be related to discrimination toward individuals with intellectual disabilities.

Conflict of interest statement

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