

1990

Empathic ability as a determinant of children's attitude toward handicapped peers.

Cornelia L. Illmann
University of Windsor

Follow this and additional works at: <http://scholar.uwindsor.ca/etd>

Recommended Citation

Illmann, Cornelia L., "Empathic ability as a determinant of children's attitude toward handicapped peers." (1990). *Electronic Theses and Dissertations*. Paper 1921.

This online database contains the full-text of PhD dissertations and Masters' theses of University of Windsor students from 1954 forward. These documents are made available for personal study and research purposes only, in accordance with the Canadian Copyright Act and the Creative Commons license—CC BY-NC-ND (Attribution, Non-Commercial, No Derivative Works). Under this license, works must always be attributed to the copyright holder (original author), cannot be used for any commercial purposes, and may not be altered. Any other use would require the permission of the copyright holder. Students may inquire about withdrawing their dissertation and/or thesis from this database. For additional inquiries, please contact the repository administrator via email (scholarship@uwindsor.ca) or by telephone at 519-253-3000ext. 3208.



National Library
of Canada

Bibliothèque nationale
du Canada

Canadian Theses Service Service des thèses canadiennes

Ottawa, Canada
K1A 0N4

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

Empathic Ability as a Determinant
of Children's Attitude Toward
Handicapped Peers

by

Cornelia L. Illmann

B.A., Wilfrid Laurier University, 1987

A Thesis
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
in Partial Fulfillment of the
Requirements for the Degree
of Master of Arts at the
University of Windsor

Windsor, Ontario, Canada

1990



National Library
of Canada

Bibliothèque nationale
du Canada

Canadian Theses Service Service des thèses canadiennes

Ottawa, Canada
K1A 0N4

The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.

L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

ISBN 0-315-61872-8

Canada

© Cornelia L. Illmann 1990

ABSTRACT

The role of empathy in children's attitudes toward handicapped peers was investigated in the present study. A total of 98 children from grades 4, 5, and 6 completed the Chedoke-McMaster Attitudes Toward Handicapped Peers scale (CATCH; Rosenbaum, Armstrong and King, 1986a) and the Index of Empathy for Children and Adolescents (IECA; Bryant, 1982) prior to and following the "Kids on the Block" program, an intervention aimed at improving attitudes toward handicapped individuals. A control group of 109 children completed these scales without viewing the intervention. Empathic ability was found to be significantly correlated with positive attitudes toward handicapped peers ($r=.48$). Females scored significantly higher in empathy and positive attitudes toward the handicapped than males. Furthermore, children at higher grade levels demonstrated greater empathic ability and more positive attitudes than children at lower grade levels. The "Kids on the Block" program was successful in improving attitudes toward the handicapped, however, the change in attitudes resulting from the intervention was not related to the children's empathic ability. It was concluded that empathy may play a significant role in attitude modification, if the intervention utilized permits the formation of an empathic connection with a handicapped individual.

ACKNOWLEDGEMENTS

I would like to extend my sincere appreciation to the members of my committee for their participation in and contributions to this project. I am indebted to my chairperson, Dr. R. Robert Orr, who has patiently supported me throughout this research and who, despite a very busy schedule, helped me to meet my deadline for completion. I also want to thank Dr. Ann McCabe, who provided me with invaluable statistical advice, as well as reassuring encouragement for my endeavors. I am also grateful to Dr. Noel Williams for sharing, from an educational perspective, his views on the study.

Furthermore, I want to express my gratitude to Pam Skillings, the co-ordinator of the "Kids on the Block", for introducing me to the program and for her assistance in scheduling performances and contacting schools for the data collection. Additionally, the school board's research director, as well as all the principals, teachers and children who participated in this project, deserve special mention, as without their cooperation this undertaking could not have been realized.

Finally, I would like to thank my family for their continued interest in my academic pursuits, and my very special thanks to Iain Twaddle, whose unfailing support throughout this ordeal made all the difference.

TABLE OF CONTENTS

| | Page |
|---|------|
| ABSTRACT | ii |
| ACKNOWLEDGEMENTS | iii |
| LIST OF TABLES | vii |
| LIST OF FIGURES | viii |
| Chapter | |
| I INTRODUCTION | 1 |
| Attitudes Toward Handicapped Individuals | 3 |
| Attitude Modification | 4 |
| Theories of Attitude Modification | 6 |
| Gender Differences in Empathy and Attitudes Toward Handicapped Peers | 8 |
| Developmental Differences in Empathy and Attitudes Toward Handicapped Peers | 10 |
| Kids on the Block | 12 |
| Rationale for the Present Study | 18 |
| Hypotheses | 19 |
| II METHOD | |
| Subjects | 21 |
| Measures | 23 |
| Intervention | 26 |
| Procedure | 27 |

| | | Page |
|----------|--|------|
| III | RESULTS | |
| | Overview | 29 |
| | Means and Standard Deviations | 30 |
| | Pre-Intervention Correlational Analysis | 32 |
| | Pre-Intervention Multivariate Analysis of Variance | 35 |
| | Post-Intervention Multivariate Analysis of Variance | 37 |
| | Post-Intervention Correlational Analysis | 47 |
| | Summary | 47 |
| IV | DISCUSSION | 52 |
| | The Relationship between Empathy and Attitudes Toward Handicapped Peers | 52 |
| | Gender Differences in Empathy and Attitudes | 56 |
| | Developmental Differences in Empathy and Attitudes | 58 |
| | Effects of the Attitude Modification Intervention | 59 |
| | Empathy as a Mediator of the Attitude Modification Intervention | 61 |
| | Implications of the Findings | 63 |
| | Limitations of the Study | 65 |
| | Recommendations for Future Research | 66 |
| APPENDIX | | |
| A | CHEDOKE-MCMASTER ATTITUDES TOWARD HANDICAPPED CHILDREN SCALE (CATCH) | 68 |
| B | INDEX OF EMPATHY FOR CHILDREN AND ADOLESCENTS (IECA) | 74 |

| | | Page |
|---|--|------|
| C | PARENTAL CONSENT FORM | 76 |
| D | CATCH INSTRUCTIONS | 78 |
| E | IECA INSTRUCTIONS | 80 |
| F | MEANS AND STANDARD DEVIATIONS FOR GENDER BY GRADE SUBGROUPS | 82 |
| G | PRE-INTERVENTION CORRELATIONS FOR GENDER BY GRADE SUBGROUPS | 85 |
| | REFERENCES | 87 |
| | VITA AUCTORIS | 95 |

LIST OF TABLES

| Table | | Page |
|-------|--|------|
| 1 | Demographic Characteristics of the Sample | 22 |
| 2 | Means and Standard Deviations for the CATCH Scale | 31 |
| 3 | Means and Standard Deviations for the IECA Scale | 33 |
| 4 | Pre-Intervention Correlational Analysis | 34 |
| 5 | Pre-Intervention MANOVA Summary | 36 |
| 6 | Pre-Intervention ANOVA Summary | 38 |
| 7 | Pre-Intervention Tukey's HSD Post-Hoc Comparisons for the Effect of Grade | 39 |
| 8 | Post-Intervention MANOVA Summary | 41 |
| 9 | Post-Intervention ANOVA for the Effect of Group | 42 |
| 10 | Effect Sizes for the CATCH | 44 |
| 11 | Post-Intervention ANOVA Summary | 45 |
| 12 | Tukey's HSD Post-Hoc Comparisons for the Gender by Grade Interaction on IECA Change Scores | 48 |
| 13 | Post-Intervention Correlational Analysis | 49 |

LIST OF FIGURES

| Figure | | Page |
|--------|---|------|
| 1 | Gender by Grade Interaction for IECA Change Scores | 46 |

CHAPTER I
INTRODUCTION

In recent years, concern for the needs of handicapped individuals has heightened. One major change has been an increase in the practice of integration, as evidenced in the widespread effort to integrate special needs children into academic, recreational and social programs (Rosenbaum, Armstrong and King, 1988). One rationale for promoting integration is that it facilitates positive interactions among handicapped and nonhandicapped individuals (Horne, 1985). Successful integration, according to Westervelt and McKinney (1980), should result in classmates being more receptive to, understanding of, and interactive with handicapped children. However, it has been found that merely placing special needs students within the regular school setting is not sufficient for achieving successful integration (Hazzard and Baker, 1982).

Numerous researchers have stressed that the success of integration is dependent upon positive attitudes toward handicapped individuals (Esposito and Peach, 1983; Fiedler and Simpson, 1987; Furnham and Gibbs, 1984; Gilfoyle and Gliner, 1985; Hazzard and Baker, 1982; Jones, Sowell, Jones and Butler, 1981; Leyser and Price, 1984; Rosenbaum,

Armstrong and King, 1986b; Westervelt and McKinney, 1980). To ensure that handicapped persons are accepted into the mainstream of society, positive attitudes need to be fostered in the non-handicapped. There has been, however, no consensus in determining how to best bring about these positive attitude changes, in part because the mechanisms of change are not clearly understood (Shaver, 1988). One plausible theory is that change in attitudes toward handicapped individuals is related to empathic ability (Clare and Jeffery, 1972; Donaldson, 1980; Ryan, 1981; Sigelman and McGrail, 1985). It may be that people with higher empathy are better able to understand and appreciate handicapped individuals and thus have more positive attitudes toward them. Furthermore, it is likely that those individuals with greater empathic ability would be more responsive to intervention programs aimed at improving attitudes.

As neither of these hypotheses concerning the relationship between empathy and attitudes toward handicapped individuals has been tested, the present research was designed to subject them to an empirical analysis. The objectives of this study were twofold. The first goal was to determine whether children with more advanced empathic skills also hold more positive attitudes toward the handicapped. The second goal was to evaluate the role of empathy in mediating the effects of an intervention

program developed to modify attitudes toward handicapped individuals; or more specifically, to assess whether those children who demonstrate greater empathic ability respond with more pronounced improvements in attitudes toward the handicapped as a result of an intervention.

Attitudes toward Handicapped Individuals

Horne (1985) defined an attitude as "a set of evaluative categorizations formed toward an object or class of objects as the individual learns, in interaction with others, about his or her environment including evaluations of other persons" (p. 1). Furthermore, she noted that, through attitude formation, the individual psychologically relates himself or herself to these objects and responds toward them in a consistently favourable or unfavourable manner.

On the basis of existing research, it is evident that nondisabled individuals tend to develop negative attitudes toward the handicapped (Esposito and Reed, 1986; Gilfoyle and Gliner, 1985; Harper, Wacker and Cobb, 1986; Hazzard and Baker, 1982; Horne and Ricciardo, 1988; Inderbitzen and Best, 1986; Margo, 1983; Royal and Roberts, 1987; Shaver, 1988; Westervelt and McKinney, 1980;). Gilfoyle and Gliner (1985) reported that in public schools negative attitudes were found to be a primary obstacle in integrating handicapped students. Moreover, Royal and Roberts (1987)

argued that the attitudes of a disabled child's peers can profoundly affect that child's self-concept, psychological well-being, academic performance, and cognitive and social development. Hence, it is crucial that nondisabled children's attitudes toward handicapped peers be favorable to provide handicapped children with the greatest opportunity for normal development.

Negative attitudes toward the handicapped are reported to develop during the formative years and have been found to continue to exist unless some attempt at modification of these attitudes occurs (Gilfoyle and Gliner, 1985). Jones and Sisk (1967) found that by the age of four, children were already developing an awareness of the limitations presented by a physical handicap and were somewhat rejecting of the disabled. Rapier, Adelson, Carey and Croke (1972) noted that attitudes can be modified during childhood, and that in fact, it is considerably easier to modify attitudes at this time, as they have not as yet crystallized. Thus, efforts to improve negative attitudes towards the handicapped should be initiated during these early years and indeed, many interventions aimed at developing more positive attitudes have focused on young children.

Attitude Modification

A considerable amount of research has been conducted in the area of modifying attitudes toward the handicapped.

Recently, Shaver (1988) reviewed over 200 studies investigating methods for enhancing these attitudes. The purpose of his research was to determine which methods were the most efficacious in bringing about attitude change. On the basis of a meta-analysis, Shaver concluded that the evidence available was inadequate to support the effectiveness of any particular approach for attitude modification. He found that there was a great deal of variety in the conditions being compared and also that the quality of the existent research was poor. The explanations given for this low quality were that attitude research is difficult to conduct, especially in applied settings (i.e., elementary schools), and that the studies were poorly designed and executed.

Donaldson (1980) also compiled a review of studies in this area. In accordance with Shaver's (1988) findings, she reported that the modification studies yielded such divergent findings, that she had difficulty directly comparing the results. Nevertheless, from her evaluation of the research, she was able to determine that programs shown to be effective in short-term attitude modification incorporated brief, structured experiences with individuals who represented nonstereotypic images of disabilities. It was also important for these handicapped representatives to have an equally valued status in relation to the participants (i.e., approximately equal in age and social,

educational or vocational status). Additionally, Donaldson reported that improved attitudes or reduced discomfort could be produced in a relatively short session without requiring the development of personal relationships between disabled and non-disabled individuals. Some researchers have successfully utilized Donaldson's recommendations to increase the efficacy of intervention programs aimed at improving attitudes toward the handicapped (McKerracher, 1982). Despite the success of these programs, there remains little consistency in attitude modification research and thus, findings from this research continue to be difficult to interpret.

Theories of Attitude Modification

A serious problem in the existing research on modifying attitudes toward the handicapped is that it tends to be atheoretical (Shaver, 1988). Rather than following a conceptual framework, most of these studies have been based upon prior research. Thus, as Shaver indicated, their findings are difficult to integrate. He noted, however, that Donaldson (1980) provided one of the few exceptions to this trend in the research.

In her discussion, Donaldson (1980) presents a theoretical framework within which the processes of change in attitudes toward handicapped persons are elucidated. She proposed two mechanisms through which a positive shift in

attitudes may occur. First, highly credible information that contradicts previously held negative stereotypes may provide enough informational cues to effectively overpower existing negative beliefs. Second, positive changes in attitude may ensue through discomfort reduction on the part of the nonhandicapped observer. Donaldson noted that the anxiety induced by the urge to stare at a handicapped person or by the fear of acting inappropriately may be reduced by increasing ones familiarity with handicapped persons. The resulting decrease in anxiety may lead to the development of more positive attitudes.

In addition to these two theoretical explanations, Donaldson also suggested that empathic ability may play a crucial role in the modification of attitudes toward the handicapped. She proposed that empathic understanding, developed through "taking the place" of the handicapped person, may contribute to the formation of more positive attitudes. Although Donaldson promoted the consideration of empathy as a plausible theoretical basis for attitude change, she did not further expand upon this concept or integrate it with the two other proposed theoretical models.

Other researchers have also implied that there may be some connection between empathy and the formation of positive attitudes toward handicapped individuals. Bryant (1982) argued that:

the more empathic the individual, the more likely will be the sharing of feelings with a wide range

of individuals and, thereby, the more accepting of individuals in general, including individuals from groups that are subject to generally negative evaluations (p.415).

Furthermore, Kalliopuska (1983) noted that empathic understanding is required in order to develop positive attitudes. She explained that the emotional components of empathy, including sensitivity toward another's feelings, sharing another's emotions, and identifying with another's status, are associated with the formation of positive regard for others.

In addition, Clore and Jeffery (1972) found that subjects role playing a disability developed more positive attitudes toward the handicapped. These authors attributed this shift in attitudes to the experience of empathic understanding of a handicapped individual. They further argued that empathy appeared to be the most promising concept to account for attitude change. The relationship between empathy and attitudes toward the handicapped, however, has not been empirically investigated.

Gender Differences in Empathy and Attitudes

Lending support to the hypothesis that empathic ability and attitudes toward handicapped individuals are related, research findings have indicated that females tend to be both more empathic and more positive in their attitudes toward the handicapped than males. In a review of 11 studies on empathy in children, Hoffman (1977) found that

females were consistently shown to be more empathic than males. More recently, Lennon and Eisenberg (1987) reported the same relationship between gender and empathic ability in a similar review utilizing 29 studies. Moreover, in reviewing the effect of gender on children's attitudes toward the handicapped, Horne (1985) indicated that females, even at the elementary school level, express more positive attitudes than males. Furthermore, research has also demonstrated gender preferences toward specific handicaps. Males have been found to devalue children with functional disabilities (i.e., a wheelchair-bound child) more than females, whereas females tend to reject peers with cosmetic impairments (i.e., facial disfigurement and obesity) more. (Richardson, 1970; Sigelman, Miller, and Whitmore, 1986).

Explanations of gender differences found in empathic ability and attitudes toward the handicapped have been attributed to the socialization process. Females are typically raised with a greater emphasis on interpersonal awareness, nurturance and emotionality, whereas male socialization is focused more on the external world, competition and aggression (Lennon and Eisenberg, 1987). Greater emotional and interpersonal sensitivity are likely to lead to higher empathy and more positive attitudes toward others, whereas aggressiveness and competitiveness can be seen as antithetic to developing these attributes.

Developmental Differences in Empathy and Attitudes

Two conceptualizations of empathy have emerged in the research. Gladstein (1983) indicated that one form emphasizes affective aspects of empathy, i.e., feeling the same way as another person does, whereas the other form is concerned with cognitive aspects, i.e., intellectually taking the role or perspective of another or seeing the world as another person does. Consistent with this conceptualization, Bryant (1982) has suggested that changes in empathy with increasing age may reflect the accumulation of emotional experiences or the developmental changes in cognitive abilities.

Hoffman (1982) outlined a four-stage model of the development of empathy in children. At each level, there is an increased awareness of another's experience. The first stage occurs during the first year of life and is characterized by a global empathic response. The child has not yet achieved "person permanence," and thus is unable to distinguish another's distress from her or his own. The second level evolves once the child differentiates her or himself from others, and recognizes that others can also experience distress. This recognition is egocentric however, as the child misattributes her or his own internal states to the person's distress. By about four years of age, the child begins to realize that other people have unique feelings and perspectives that are different from her

or his own. During this third stage, the child can correctly identify and empathize with various emotions in others. In the final stage, which occurs by late childhood, the child understands that an individual's experience extends beyond the immediate situation and thus empathy for someone's general life condition is aroused. Hoffman proposed that at this highest level of empathic development, children can be concerned with the plight of chronically disadvantaged groups of people, such as the handicapped. Thus, according to this schema, empathic ability appears to develop from infancy through to late childhood. At the highest level of empathic ability, the capacity to develop positive attitudes toward handicapped individuals is attained.

Age-related differences in attitudes toward the handicapped have been hypothesized to be a function of the development of empathic or role taking ability (Ryan, 1981). Sigelman and McGrail (1985) suggested that as children get older, they express increasingly sympathetic responses toward handicapped individuals. Ryan (1981) asserted that a developmental trend exists in attitudes toward the handicapped, in that from early childhood attitudes become increasingly favourable until adolescence. With the onset of adolescence, attitudes become rather negative, although not quite as negative as in early childhood. Ryan proposed that Robert Selman's (1971) six stage developmental sequence

of role-taking ability could be utilized to explain developmental differences in attitudes. She illustrated that young children might tend to reject the handicapped because they do not understand the handicapped individual's subjective perspective. Moreover, they would assume that their own aversive reactions are caused by the disabled person and that these negative reactions are also experienced by others. Thus, as children develop greater awareness of the subjective perspectives of others, in conjunction with a greater understanding of their own feelings and beliefs, rejection of the handicapped would decrease. Ryan suggested, however, that upon entering adolescence, rejection reoccurs because the adolescent develops an awareness of the prejudices held by his or her peer group or society and subsequently adopts these prejudices. Ryan indicated that developmental differences in subjective role-taking may provide an appropriate theoretical framework from which to investigate developmental differences in attitudes toward the handicapped. Based upon this framework, it may be possible to circumvent this subsequent rejection of the disabled by intervening before the onset of adolescence occurs.

Kids on the Block

One program currently employed to educate preadolescent children about handicaps and to help them develop more

positive regard toward handicapped individuals is the "Kids on the Block". This program involves a group of life-like puppets, some handicapped and some not, designed to help children understand different disabilities such as blindness, deafness, mental retardation, cerebral palsy and learning disability. The "Kids on the Block" was developed in 1977 by Barbara Aiello with the goal of teaching children, through puppets, what it is like to be handicapped and how to appreciate individual differences. The creator chose puppets because of their ability to communicate in a non-threatening manner (Children's Rehabilitation Centre of Essex County, 1986).

The "Kids on the Block" program incorporates many of the factors identified by Donaldson (1980) as being successful in bringing about short term attitude modification, such as the short, structured presentation of nonstereotypic disabled individuals who are of equal status to the intervention participants (i.e., the puppets resemble their audiences in age, size and even attire). The presentation imparts relevant information to the children which aids in their understanding and appreciation of handicaps and enhances their sensitivity toward individuals with various handicapping conditions.

A number of researchers have investigated the efficacy of "Kids on the Block" in promoting positive attitudes toward the handicapped. Gilfoyle and Gliner (1985) examined

the hypothesis that a shift toward a more positive perception of handicapped persons would occur after exposure to the puppet show. They also hypothesized that this positive shift would generalize to those handicaps not presented in the show. The subjects in their study were fourth, fifth and sixth grade students selected from three different schools: one with an identified special education program, a second without a special education program or special education students, and a third which served as the control group, where no puppet show had been presented or was scheduled to be given in the near future. The authors employed a measure that they developed themselves to assess children's opinions of persons with handicaps. The results indicated that the puppet show significantly increased children's response accuracy on items dealing with information about handicapped peers; however, items measuring behavioural change and personal feelings were not altered significantly. Gilfoyle and Gliner stated that although no significant modification in personal feelings or behavioural change was evident after this initial exposure, the increase in knowledge which was achieved could be perceived as a prerequisite step for subsequently changing feelings, provided that further learning experiences are implemented.

Powell (1985) examined the attitudes of third, fourth and fifth grade students to determine the extent to which

the "Kids on the Block" program would improve the students' knowledge of and attitudes toward the handicapped. He found that the intervention was successful in increasing factual knowledge of the handicapped for all three grades. However, improvements in feelings toward the handicapped were found for only grades three and four, whereas an increase in interest in the handicapped was demonstrated for subjects in only grades four and five.

In a study of third grade students, Snart and Maguire (1986) assessed factual knowledge of and general attitudes toward handicapped peers prior to and then following the "Kids on the Block" presentation. Results indicated that following the performance, the children possessed a greater understanding of and more positive attitudes toward the handicapped.

Grider (1985) examined the effectiveness of the "Kids on the Block" presentation at modifying attitudes in fifth and sixth grade children. In addition to the presentation, five hours of follow-up activities were also provided. It was found that negative attitudes could be altered and that the program was successful at instilling positive attitudes toward the handicapped in non-handicapped children. Furthermore, the changes produced were found to last over time, as indicated by the relatively stable treatment effects maintained from the initial posttest to the delayed posttest four weeks later.

Finally, Rosenbaum, Armstrong and King (1986b) evaluated the relative effectiveness of the "Kids on the Block" program and a "buddy" program, in combination and individually. Children in grades four to seven were divided into four groups: group one which viewed the puppet program and engaged in some related activities; group two which participated in the buddy program and also viewed the puppet program; group three which participated in only the buddy program; and group four which was not exposed to either condition (control). In contrast to the previous studies, the results of this investigation indicated that children exposed to the "Kids on the Block" program alone did not respond with a measurable change in attitudes toward the handicapped when compared to the control group. The children exposed to the buddy program alone, on the other hand, demonstrated an increase in positive attitudes toward the handicapped.

These results contradict the findings from earlier "Kids on the Block" research, and thus to some extent, bring the efficacy of the program into question. Rosenbaum et al. (1986b) offered several possible explanations for the nonsignificant results, one of which was that the scale they used to measure attitudes (Chedoke-McMaster Attitudes Toward Children with Handicaps; CATCH) may not capture changes which come about after the "Kids on the Block" program. However, they also pointed out that only 56% of potentially

eligible students volunteered to take part in their study. Rosenbaum et al. suggested that children who volunteer to participate in research tend to express more positive attitudes toward the handicapped. Thus, they concluded that this select group of children may have had initially high CATCH scores, minimizing the amount of attitude change through a ceiling effect. In a student sample with a greater range of initial CATCH scores, attitude change may be more likely to occur.

Furthermore, Rosenbaum et al. (1986b) may have selected out subjects with not only more positive attitudes toward handicapped individuals, but also higher empathy. Research investigating the relationship between empathy and helping behaviour has found that individuals with greater empathic ability are much more likely to volunteer to help than are individuals with lower empathy (Archer, Diaz-Loving, Gollwitzer, Davis & Foushee, 1981; Barnett, Fieghny & Esper, 1983; Barnett, Howard, King, and Dino, 1981; Barnett & Thompson, 1984). For instance, Barnett, Howard, King, and Dino (1981) found that subjects with greater empathic ability volunteered for a project to help handicapped children significantly more than individuals with less empathic ability. That children who volunteer to help have both greater empathic ability and more positive attitudes toward the handicapped corresponds to the hypothesis that these two attributes may be related. Moreover, it suggests

that in order to demonstrate significant changes on the CATCH scale in response to the "Kids on the Block " intervention, a greater range in both initial attitude levels and empathic abilities may be required.

In summation, there seem to be mixed findings concerning the effectiveness of the "Kids on the Block" program in bringing about a positive change in attitudes toward handicapped individuals. The majority of the studies reviewed here, indicated that children experienced an increase in factual knowledge about handicaps as a result of the intervention. However, the program appeared to be somewhat less efficacious in modifying personal feelings and behavioural intentions. As attitudes are thought to consist of three components: beliefs, affects, and behavioural dispositions, (Zimbardo, 1988), it can be concluded that there is evidence supporting the ability of the "Kids on the Block" to increase positive attitudes toward the handicapped to some extent, although there is considerable variability between studies.

Rationale for the Present Study

In order to provide handicapped children with an environment conducive to normal psychological development, it is essential that their peers hold positive attitudes toward them. Unfortunately, studies demonstrate that nondisabled children tend to hold negative attitudes toward

the handicapped. A number of interventions aimed at modifying these attitudes have been developed. However, there has been little consensus on how to bring about attitude change, primarily because the mechanisms of change are not clearly understood. If the process underlying the modification of attitudes toward the handicapped was understood, interventions which work through this process could be implemented.

One hypothesis is that empathic ability moderates the formation of attitudes toward the handicapped. As this hypothesis has not yet been tested, this study was designed to investigate the role of empathy in children's attitudes toward the handicapped. Furthermore, it was the intention of the researcher to investigate the role of empathy in mediating the effects of the "Kids on the Block" program. In addition, as previous research findings have indicated that certain gender and age differences exist in empathic ability and attitudes toward handicapped peers, it is of interest to determine whether these findings can be replicated in the present investigation.

Hypotheses

The experimental hypotheses were as follows:

- 1) Children with greater empathic ability will have more positive attitudes toward the handicapped.

2) At higher grade levels, children will have more developed empathic ability and correspondingly, will also express more positive attitudes.

3) Females will demonstrate greater empathic ability and more positive attitudes than males.

4) Attitudes toward the handicapped, will become more positive in children who receive the attitude modification intervention than in those who do not; empathic ability is not expected to change as a result of the intervention.

5) Following attitude modification intervention, those children with greater empathic ability are expected to demonstrate greater improvements in positive attitudes toward the handicapped.

CHAPTER II

METHOD

Subjects

Children in grades four, five, and six were selected from five schools in Southwestern Ontario to participate as subjects in this study. Subjects were chosen from this grade range as it comprises the target population for the "Kids on the Block" program. Two of the five schools received the "Kids on the Block" intervention and students from these schools formed the experimental group. This group included a total of 98 subjects (37 males and 61 females) with an age range from 9 to 12 years. Students from the other three schools comprised a control group. Inclusion in this group required that the "Kids on the Block" had not performed at the school in the past three years. The control group consisted of 119 subjects (56 males and 63 females) with an age range of 9 to 12 years. Although some subjects in this study reported having a friend or a family member who was handicapped, none of the subjects reported having any handicaps themselves. The demographic characteristics for each group are presented in Table 1.

Table 1

Demographic Characteristics of the Sample

| Demographic Variables | Group | |
|---|--------------------|---------------|
| | Experimental Group | Control Group |
| Number of Subjects | 98 | 119 |
| Males | 37 | 56 |
| Females | 61 | 63 |
| Grade Four | 32 | 36 |
| Grade Five | 36 | 44 |
| Grade Six | 30 | 39 |
| Grade Four Males | 14 | 18 |
| Grade Five Males | 13 | 26 |
| Grade Six Males | 10 | 12 |
| Grade Four Females | 18 | 18 |
| Grade Five Females | 23 | 18 |
| Grade Six Females | 20 | 27 |
| Previous Contact with Handicapped Individuals | 45 | 65 |

Measures

All participants were requested to complete two self-report questionnaires. The first measure, the Chedoke-McMaster Attitudes Towards Children with Handicaps scale (CATCH; Rosenbaum, Armstrong and King, 1986a), was used to assess attitudes toward handicapped individuals. The second measure, the Index of Empathy for Children and Adolescents (IECA; Bryant, 1982), was employed to assess empathic ability.

Chedoke-McMaster Attitudes Toward Handicapped Children scale. The CATCH scale (see Appendix A) consists of 36 statements about the respondents' cognitive understanding of, affective response to, and behavioural intentions toward disabled children (Rosenbaum, Armstrong and King, 1986b). A sample item is, "I would be happy to have a handicapped child for a special friend". Responses are reported on a five point Likert scale with values ranging from 0 (strongly disagree) to 4 (strongly agree); thus, total scores can range from 0 to 144. The CATCH is appropriate for use with elementary school-aged children.

Rosenbaum et al. (1986a) demonstrated that the CATCH has good psychometric properties. Internal consistency was high, with an alpha coefficient of .90. Test-retest reliability over a three month interval was .73. In an assessment of the validity of this scale, the CATCH was

found to detect gender differences in attitudes. Females were found to consistently score significantly higher than males. Furthermore, children with handicapped friends were shown to score significantly higher on the CATCH than those who did not have handicapped friends. Finally, it was demonstrated that participating in a buddy experience with a disabled child resulted in improved attitude scores. The researchers suggested that these findings contribute to the construct validity of the CATCH.

The Index of Empathy for Children and Adolescents. The IECA (see Appendix B) is a 22-item questionnaire adapted from Mehrabian and Epstein's (1972) adult measure of emotional empathy. The IECA requires children to agree or disagree with a series of statements (e.g., "seeing a boy who is crying makes me feel like crying"). Item responses are scored as either 0 or 1, and thus, the range for the total score is 0 to 22. This measure was developed for use with subjects ranging from grades one to seven. It can be group administered easily, without the need for special equipment or facilities. The author defines the concept of empathy measured by the scale as "a vicarious emotional response to the perceived emotional experiences of others, with an emphasis on emotional responsiveness rather than on accuracy of cognitive social insight" (Bryant, 1982, p. 413). The IECA is purported to measure trait, rather than

state, empathic ability (Lennon and Eisenberg, 1987).

A psychometric evaluation of the IECA, conducted by Bryant (1982), demonstrated satisfactory reliability. Internal consistency estimates yielded low-moderate item-total correlations, which Bryant suggested maximize the potential discriminative ability of the scale. Cronbach's alpha varied with the age of the respondents, with coefficients ranging from .54 for first grade children, to .68 for fourth grade children, and to .79 for seventh grade children. Test-retest reliability based on a two week interval was found to be relatively stable; coefficients also varied with age of the respondents and ranged between .74 for first graders, .81 for second graders and .83 for seventh graders.

Bryant (1982) also carried out research to assess the validity of the IECA. Support for its convergent validity was demonstrated by correlation coefficients of .76 with the Mehrabian and Epstein adult measure of empathy and .33 with the Feshbach and Roe (1968) measure of empathy. Evidence of the IECA's discriminant validity was shown by correlations with reading achievement ranging from .20 to -.22 and with social desirability ranging from .08 to .16. Additionally, higher empathy scores on the IECA were associated with greater acceptance of individual differences and with less aggressive behaviour, lending support to its construct validity.

Intervention

The intervention employed was the "Kids on the Block" presentation, featuring disabled and nondisabled puppets which educate children about handicapped individuals. The target group of the "Kids on the Block" is comprised of students in grades four, five and six. Each performance is approximately one hour in length and involves skits with the puppets, followed by a question and answer period during which the audience is provided an opportunity to interact with the troupe. The skits typically involve a non-handicapped puppet interviewing one of the disabled puppets who presents information about the particular handicap that he or she has and also what it is like to have that disability. A number of disabilities are represented including cerebral palsy, hearing impairment, visual impairment, mental retardation, spina bifida, and learning disability. The experimental group in this study, viewed presentations with the characters representing cerebral palsy, learning disability, and spina bifida.

The puppets are intended to represent real children. Therefore, they are almost life-sized, have their own unique name, personality and biography, and are dressed in contemporary clothing. Furthermore, the puppets are approximately the same age as the children in the audience, rendering them equal in status, which according to Donaldson (1980), is important for an intervention to be successful.

Procedure

Two or three days prior to the onset of data collection, the researcher went to each school and distributed the parental consent letters (See Appendix C). Students were advised that participation in the study was dependent upon returning the forms signed. The data was collected in a group format within two classroom sessions.

In the first session, the researcher explained to the subjects that the purpose of the study was to find out how children, in grades four, five and six, feel in different situations and what they know and think about handicapped children. The subjects were informed that participation was entirely voluntary and that they were free to discontinue the study at any point. Questionnaire packets were distributed and subjects were asked to write their name and gender on the front page of the booklet. The researcher read the instructions for the CATCH scale (see Appendix D), and the students then practiced responding with two sample questions. Once they understood the procedure for correctly recording their responses, they proceeded to complete the questionnaire. For each item, the researcher read aloud the statement and the children indicated their responses in their booklets. The IECA was then administered following a similar format. Instructions for the IECA are presented in Appendix E. When both of the questionnaires were completed, the children were informed that the researcher would be

returning in a week to readminister the questionnaires.

The day after this initial assessment, the children in the experimental group viewed the "Kids on the Block" presentation. Approximately seven days following the intervention, the children were readministered both scales following the same procedure. For those children in the control group, not viewing the presentation, the second administration of the measures occurred after an equivalent period of time.

To insure confidentiality, each subject was assigned an identifying code number. These numbers were transferred to the questionnaire booklets and the front page of each booklet, containing the subject's name and gender, was discarded. Thus, only the child's code number appeared on the questionnaire. These numbers were used to match the pre and post-questionnaires and to distinguish group assignment.

CHAPTER III

RESULTS

Overview

The purpose of this study was to investigate the relationship between children's empathy and their attitudes toward handicapped individuals. To determine whether children with greater empathic ability had more positive attitudes toward the handicapped, a correlational analysis between children's initial scores on the Index of Empathy for Children (IECA) and the Chedoke-McMaster Attitudes toward Handicapped Children Scale (CATCH) was performed for the total sample and for each gender and grade level. Furthermore, in order to assess whether CATCH and IECA scores varied as a function of either gender or grade, a 2(Gender) X 3(Grade) X 2(Group) Multivariate Analysis of Variance (MANOVA) was conducted using CATCH and IECA scores as dependent measures. Multivariate effects found to be significant were further subjected to univariate analyses of variance to determine the nature of the effects. Through this analysis, it was also possible to test whether the experimental and control groups differed on the dependent measures prior to the intervention.

In order to examine the effects of the "Kids on the Block" intervention, difference scores were calculated

between pre and post-intervention scores of both the CATCH and the IECA. A 2(Group) X 2(Gender) X 3(Grade) Multivariate Analysis of Variance (MANOVA) was then conducted utilizing the CATCH and IECA difference scores as dependent measures. Significant multivariate effects were further subjected to univariate analyses of variance. This analysis compared the degree of change in the dependent measures between the experimental and control groups and assessed whether this change varied as a function of grade or gender. Effect sizes were also calculated to determine the magnitude of the intervention's effect on the CATCH scores.

Finally, pre-intervention IECA scores were correlated with CATCH score change. This analysis was designed to test the hypothesis that following the intervention, those children with greater empathic ability would demonstrate greater improvements in positive attitudes held toward the handicapped.

This chapter reports on the findings of these analyses.

Means and Standard Deviations

The means and standard deviations for the pre and post-intervention CATCH scores are presented in Table 2. These statistics are reported for both the experimental and control groups and for each gender and grade level within each group. Means and standard deviations are provided in

Table 2

Means and Standard Deviations for Pre and Post-CATCH Scores

| | Group | | | |
|------------|--------------------|-------------------|-------------------|-------------------|
| | Experimental Group | | Control Group | |
| | Pre-CATCH | Post-CATCH | Pre-CATCH | Post-CATCH |
| All | 98.43 (16.99) | 104.84 (18.71) | 102.58 (17.59) | 102.22 (20.98) |
| Males | 92.95 (19.55) | 98.35 (22.57) | 97.95 (18.24) | 97.52 (22.33) |
| Females | 101.75 (14.41) | 108.77 (14.79) | 106.70 (16.03) | 106.40 (18.92) |
| Grade Four | 92.66 (17.11) | 101.88 (18.88) | 97.50 (19.02) | 99.00 (23.12) |
| Grade Five | 102.94 (18.13) | 106.69 (20.15) | 103.93 (18.90) | 102.20 (22.14) |
| Grade Six | 99.17 (13.91) | 105.77 (16.89) | 105.74 (13.66) | 105.21 (17.35) |

Note. Numbers in parentheses indicate the standard deviation from the mean.

the same format for the pre and post-intervention IECA scores in Table 3. Additionally, means and standard deviations were calculated for both CATCH and IECA scores for each cell in a grade by gender matrix. These statistics are presented in Appendix F.

Pre-Intervention Correlational Analysis

Pearson product-moment correlations between initial scores on the dependent measures were calculated for the entire sample and for the various gender and grade sub-groups. As predicted, the CATCH and IECA scores were found to be positively correlated ($r=.48$, $p<.001$) for the total sample. This is a moderate relationship, accounting for 23% of the variance in each measure. Significant positive correlations between initial CATCH and IECA scores were also demonstrated for both males and females and for all three grades. Results of the correlational analysis are presented in Table 4.

An inspection of the correlations for groups formed by a grade by gender matrix revealed significant correlations between CATCH and IECA scores for all groups except the grade six males. However, the grade six males had the smallest cell size ($N=22$), which may account for the correlation not reaching significance. The results of this analysis are presented in Appendix G.

Table 3

Means and Standard Deviations for Pre and Post-IECA Scores

| | Group | | | |
|------------|--------------------|-----------------|-----------------|-----------------|
| | Experimental Group | | Control Group | |
| | Pre-IECA | Post-IECA | Pre-IECA | Post-IECA |
| All | 14.33 (3.33) | 14.44 (3.80) | 14.75 (3.03) | 14.41 (3.24) |
| Males | 13.51 (3.53) | 12.62 (3.86) | 14.00 (2.77) | 13.21 (3.15) |
| Females | 14.82 (3.13) | 15.54 (3.34) | 15.41 (3.12) | 15.48 (2.95) |
| Grade Four | 13.19 (3.21) | 13.59 (4.03) | 14.11 (3.45) | 13.78 (4.01) |
| Grade Five | 14.94 (3.08) | 14.53 (3.84) | 14.59 (2.58) | 14.43 (2.76) |
| Grade Six | 14.80 (3.55) | 15.23 (3.43) | 15.51 (3.00) | 14.97 (2.91) |

Note. Numbers in parentheses indicate the standard deviation from the mean.

Table 4

Pre-Intervention Correlations of CATCH and IECA Scores

| Group | <u>r</u> |
|--------------|----------|
| Total Sample | .48 *** |
| Males | .42 *** |
| Females | .49 *** |
| Grade Four | .48 *** |
| Grade Five | .45 *** |
| Grade Six | .46 *** |

Note. *** = $p \leq .001$ (one-tailed test of significance).

Pre-Intervention Multivariate Analysis of Variance

With the Multivariate Analysis of Variance (MANOVA) technique, it is possible to test whether group assignment significantly affects an optimal linear combination of dependent variable means. This procedure is preferable to conducting multiple ANOVA's, i.e., one for each dependent variable, as the MANOVA reduces the chance of Type 1 error. ANOVA's can be conducted with more confidence when significant multivariate results are found. In this study, it was of interest to determine whether gender or grade had an effect on pre-intervention scores on the CATCH and IECA scales, and thus these scores were subjected to a 2(Gender) X 3(Grade) X 2(Group) MANOVA. This analysis also permitted an assessment of whether prior to the intervention, any differences existed between the experimental and control groups on the dependent measures. The MANOVA program used for this analysis was from the Statistical Package for the Social Sciences (SPSS-X), (Norusis, 1988).

The MANOVA results indicated significant main effects of Gender, $F(2,192) = 5.30, p < .01$, and Grade, $F(4,386) = 4.38, p < .01$, whereas the main effect of Group failed to reach significance, $F(2,192) = 1.14, p = .32$. None of the interactions proved to be significant. The results of this analysis are presented in Table 5.

Univariate analyses demonstrated significant Gender effects on the CATCH, $F(1,193) = 9.74, p < .01$, and on the

Table 5

Pre-Intervention MANOVA Summary for Main Effects and Interactions Of Grade, Gender and Group on CATCH and IECA Scores

| Effects | <u>F</u> | df |
|---------------------------|----------|--------|
| Grade | 4.38 ** | 4, 386 |
| Gender | 5.30 ** | 2, 192 |
| Group | 1.14 | 2, 192 |
| Grade X Gender | .47 | 4, 386 |
| Grade X Group | .12 | 4, 386 |
| Gender X Group | .10 | 2, 192 |
| Grade X Gender X Group | 1.45 | 4, 386 |

Note 1. ** = $p < .01$.

Note 2. F values are based on Pillai's criterion. It has been suggested that, for psychological research, Pillai's is the most powerful criterion employed in multivariate analysis of variance (Norusis, 1988).

IECA, $F(1,193) = 4.76$, $p < .05$. These ANOVA results are presented in Table 6. Examination of the group means indicated that females scored significantly higher than males on both CATCH and IECA (See Table 2 and 3). A significant effect of Grade was found for the CATCH, $F(2,193) = 7.13$, $p \leq .001$, and for the IECA, $F(2,193) = 5.45$, $p < .01$. Table 6 also presents the results of this analysis of variance.

A Tukey's Honestly Significant Difference (HSD) post-hoc comparison, was conducted to determine which of the Grade group means differed significantly on each variable. For the CATCH, both the grade five and six groups had means significantly higher than those of the grade four group. The findings for the IECA analysis indicated that the mean of the grade six group was significantly higher than that of the grade four group. The results of the Tukey's HSD tests are presented in Table 7.

Post-Intervention Multivariate Analysis of Variance

Following the intervention, the difference between pre and post-scores on both the CATCH and IECA were calculated. Constant values were added to these scores in order to eliminate negative numbers. The resulting difference scores were subjected to a 2(Group) X 2(Gender) X 3(Grade) MANOVA. With this analysis, it could be determined whether, as a result of the intervention, there were differences on the

Table 6

Pre-Intervention ANOVA Summary of Gender and Grade Effects

| | Hypothesis M.S. | Error M.S. | F | p |
|---------------------|--------------------|---------------|---------|------|
| Gender (d.f. 1,193) | | | | |
| CATCH | 2606.83 | 267.76 | 9.74** | .002 |
| IECA | 43.23 | 9.08 | 4.76* | .030 |
| Grade (d.f. 2,193) | | | | |
| CATCH | 1909.47 | 267.76 | 7.13*** | .001 |
| IECA | 49.48 | 9.08 | 5.45** | .005 |

Note. * = $p < .05$, ** = $p < .01$, *** = $p \leq .001$.

Table 7

Tukey's HSD Post-Hoc Comparisons for the Effect of Grade on
Pre-Intervention CATCH and IECA Group Means

| Group Pairs | Measure | |
|----------------------|---------|------|
| | CATCH | IECA |
| Grade 4 & Grade 5 | * | - |
| Grade 4 & Grade 6 | * | * |
| Grade 5 & Grade 6 | - | - |

Note. * denotes pairs of groups significantly different at the 0.05 level.

dependent measures between the experimental and control groups. It was also possible to assess whether there was an effect of either gender or grade on the degree of change in the dependent measures.

The results of the post-intervention MANOVA indicated significant main effects of Group, $F(2,204) = 12.16$, $p < .001$, and Gender, $F(2,204) = 6.11$, $p < .01$, however Grade only approached significance, $F(4,410) = 2.31$, $p = .057$. An interaction of Gender and Grade was found to be significant, $F(4,410) = 4.72$, $p \leq .001$. None of the other interactions reached significance. The results of the MANOVA are presented in Table 8.

The follow-up univariate analyses revealed significant Group effects for the CATCH, $F(1,205) = 23.34$, $p < .001$, but not for the IECA, $F(1,205) = 2.00$, $p = .16$. These results are presented in Table 9. Examination of the group means revealed that the experimental group had significantly higher change scores on the CATCH than the control group (see Table 10).

Although a significant F value obtained from an analysis of variance procedure indicates that a relationship between variables has occurred with a probability greater than chance, this statistic does not give information concerning the magnitude of the relationship. In order to glean this information, it is necessary to calculate an effect size. The procedure proposed by Cohen (1977) for

Table 8

Post-Intervention MANOVA Summary for Main Effects and Interactions Of Grade, Gender and Group on CATCH and IECA Change Scores

| Effects | <u>F</u> | df |
|---------------------------|-----------|--------|
| Grade | 2.31 | 4, 410 |
| Gender | 6.11 ** | 2, 204 |
| Group | 12.16 *** | 2, 204 |
| Grade X Gender | 4.72 *** | 4, 410 |
| Grade X Group | 0.46 | 4, 410 |
| Gender X Group | 0.60 | 2, 204 |
| Grade X Gender X Group | 1.57 | 4, 410 |

Note 1. ** = $p < .01$; *** = $p \leq .001$.

Note 2. F values are based on Pillai's criterion. It has been suggested that, for psychological research, Pillai's is the most powerful criterion employed in multivariate analysis of variance (Norusis, 1988).

Table 9

Post-Intervention ANOVA for the Effect of Group

| | Hypothesis M.S. | Error M.S. | <u>F</u> |
|--------------------|--------------------|---------------|----------|
| Group (d.f. 1,205) | | | |
| CATCHD | 2260.98 | 96.89 | 23.34*** |
| IECAD | 13.74 | 6.88 | 2.00 |

Note 1. *** = $p \leq .001$.

Note 2. CATCHD = CATCH change score; IECAD = IECA change score.

calculating an effect size (d) involves dividing the difference between two means by the standard deviation of the two samples being compared. Cohen outlines that a small effect is in the order of .2, a moderate effect is about .5 and a large effect is considered to be .8 or more. It was determined that the magnitude of the difference between the CATCH score changes following the intervention for the experimental and control groups was moderately large ($d = .65$). Effect sizes were also calculated for each gender, grade, and grade by gender grouping; these statistics are reported in Table 10.

Further univariate analyses of variance conducted for the post-intervention MANOVA demonstrated a significant Gender effect for the IECA, $F(1,205) = 11.88$, $p \leq .001$, but not for the CATCH, $F(1,205) = .79$, $p = .38$. These results are presented in Table 11. By examining the group means, it was determined that females had higher change score means on the IECA than males.

Univariate analyses yielded a significant Grade by Gender interaction for the IECA, $F(2,205) = 6.43$, $p < .01$, and an interaction approaching significance for the CATCH, $F(2,205) = 2.88$, $p = .058$. These results are also reported in Table 11. Figure 1 displays the interaction between gender and grade for the IECA. A Tukey's HSD post-hoc comparison was performed to determine which groups differed significantly on the IECA. It was found that grade six

Table 10

CATCH Effect Sizes for the Total Sample and each Grade,
Gender, and Grade by Gender Subgroup

| Group | Experimental CATCHD Mean | Control CATCHD Mean | Overall S.D. | Effect Size |
|-----------------------|-----------------------------|------------------------|-----------------|----------------|
| Total Sample | 106.41 | 99.62 | 10.48 | .65 |
| Males | 105.41 | 99.54 | 11.23 | .53 |
| Females | 107.02 | 99.70 | 9.89 | .74 |
| Grade Four | 109.22 | 101.50 | 11.42 | .68 |
| Grade Five | 103.78 | 98.23 | 9.71 | .57 |
| Grade Six | 106.60 | 99.46 | 10.03 | .71 |
| Grade Four Males | 110.43 | 102.33 | 12.30 | .66 |
| Grade Five Males | 102.85 | 99.15 | 10.26 | .36 |
| Grade Six Males | 101.70 | 96.17 | 9.95 | .56 |
| Grade Four Females | 108.28 | 100.67 | 10.70 | .71 |
| Grade Five Females | 104.26 | 96.89 | 9.27 | .79 |
| Grade Six Females | 109.05 | 100.93 | 9.64 | .84 |

Note 1. CATCHD = CATCH change score; S.D. = standard deviation.

Note 2. A constant of 100 was added to CATCHD scores. Thus, scores of 100 reflect no change; scores above 100 indicate positive change; and scores below 100 indicate negative change.

Table 11

Post-Intervention ANOVA Summary of Gender Effects and
Gender by Grade Interactions

| | Hypothesis M.S. | Error M.S. | F |
|-----------------------------|--------------------|---------------|----------|
| Gender (d.f. 1,205) | | | |
| CATCHD | 76.61 | 96.89 | 0.79 |
| IECAD | 81.70 | 6.88 | 11.88*** |
| Gender X Grade (d.f. 2,205) | | | |
| CATCHD | 279.00 | 96.89 | 2.88 |
| IECAD | 44.25 | 6.88 | 6.43** |

Note 1. ** = $p < .01$, *** = $p \leq .001$.

Note 2. CATCHD = CATCH change score; IECAD = IECA change score.

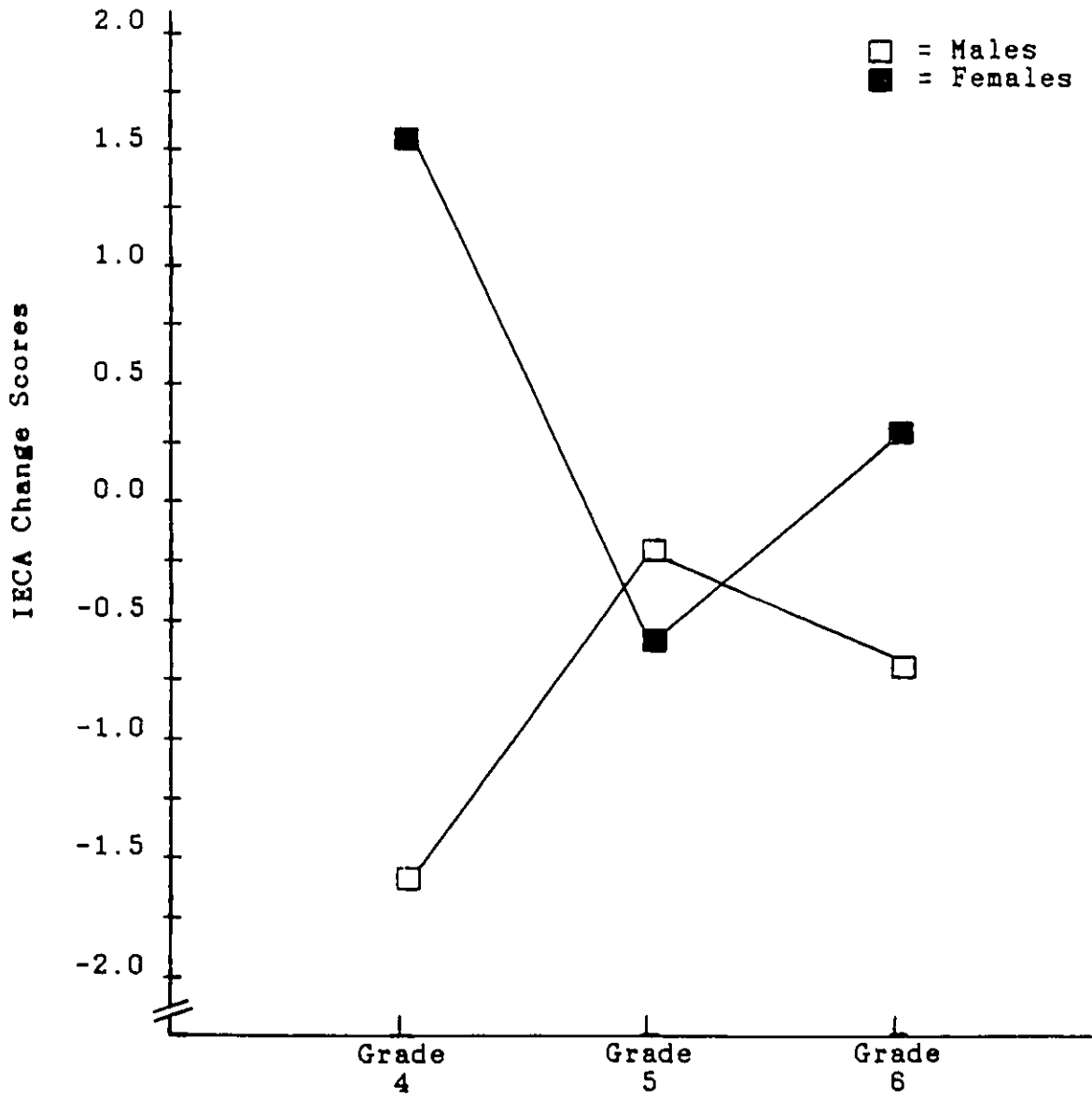


Figure 1. Gender by Grade Interaction for IECA Change Scores.

females had mean IECA change scores significantly higher than grade four males. Additionally, grade four females had mean IECA change scores significantly higher than females in grade five and males in grades four and six. The results of the Tukey's tests are presented in Table 12.

Post-Intervention Correlational Analysis

The purpose of the post-intervention correlational analysis was to evaluate the extent to which CATCH score change was related to initial IECA scores for the experimental group. An examination of the relationship between CATCH score change and initial IECA scores demonstrated a nonsignificant correlation ($r = .01$, $p < .461$). The results of the analysis are presented in Table 13. No significant correlations were found between CATCH change scores and initial IECA scores for males or females or for any of the three grade levels.

Summary

In the pre-intervention analysis, scores on the CATCH were found to be significantly related to IECA scores for the total sample, for males and females and for all three grade levels. Significant correlations between the initial CATCH and IECA scores were also found for all of the grade by gender subgroups, except the grade six males. Thus, empathic ability appears to be related to attitudes toward

Table 12

Tukey's HSD Post-Hoc Comparisons for the Grade by Gender
Interaction on IECA Change Scores

| Group | Group | | | | | |
|----------------------------|-------|----|----|----|----|----|
| | 4M | 5M | 6M | 4F | 5F | 6F |
| Grade Four Males (4M) | | | | | | |
| Grade Five Males (5M) | - | | | | | |
| Grade Six Males (6M) | - | - | | | | |
| Grade Four Females (4F) | * | - | * | | | |
| Grade Five Females (5F) | - | - | - | * | | |
| Grade Six Females (6F) | * | - | - | - | - | |

Note. * denotes pairs of groups significantly different at the 0.05 level.

Table 13

Post-Intervention Correlations of CATCH Change Scores and
Initial IECA Scores

| Group | r |
|--------------|------|
| Total Sample | .01 |
| Males | -.06 |
| Females | .05 |
| Grade Four | .16 |
| Grade Five | .15 |
| Grade Six | -.15 |

handicapped peers. The pre-intervention MANOVA results indicated that there were significant main effects of gender and grade on the dependent measures. Females scored significantly higher than males on both the CATCH and the IECA. Both the grade five and six groups scored significantly higher on the CATCH than the grade four group, whereas on the IECA the grade six group scored significantly higher than the grade four group. There were no significant differences between the experimental and control groups prior to the intervention.

The results of the post-intervention MANOVA, employing CATCH and IECA change scores as dependent variables, indicated that there was a significant main effect for both group and gender, and also a significant interaction between gender and grade. The univariate analyses revealed that the change in CATCH scores was significantly higher for the experimental group than for the control group. The size of this effect was found to be moderately large. The univariate analysis of the gender effect revealed that females had significantly higher IECA change scores than males. Furthermore, the gender by grade interaction was found to be significant for IECA change scores; grade six females scored significantly higher than grade four males and grade four females scored significantly higher than females in grade five and males in grades four and six. Finally, the correlations between initial IECA scores and

CATCH change scores were not significant, indicating that there was no relationship between empathic ability and change in attitudes toward handicapped peers as a result of the intervention.

CHAPTER IV

DISCUSSION

The purpose of the present investigation was to evaluate the role of empathy in children's attitudes toward handicapped individuals. Children's scores on a measure of empathy and a measure of children's attitudes toward handicapped peers were analyzed prior to and following an intervention aimed at increasing positive attitudes toward handicapped individuals. This chapter discusses the results of these analyses in relation to the five research hypotheses posed in chapter one. The implications of the findings, limitations of the study, and recommendations for future research will also be presented here.

The Relationship Between Empathy and Attitudes Toward Handicapped Peers

As previously outlined, the ability to empathize or to vicariously experience the emotions of another person, is suggested to be associated with having positive attitudes toward handicapped individuals (Bryant, 1982; Clore and Jeffery, 1972; Donaldson, 1980; Kalliopuska, 1983; Ryan, 1983). The results from the present study correspond to this premise. In accordance with the first research hypothesis, empathic ability was found to be moderately

related to children's attitudes toward handicapped peers. This relationship was found not only for the general sample, but also for both males and females and for each grade level. Thus, it appears that the relationship between empathic ability and attitudes toward handicapped peers is pervasive across both genders and all developmental levels utilized in this study.

As these findings are based upon correlational research, the directional nature of the relationship can not be ascertained. It is possible that empathy and attitudes coexist in a reciprocal system in which each attribute is affected by further development of the other. However, a number of researchers have pointed to a more unidirectional relationship in which the development of empathic ability leads to and directly affects the formation of attitudes toward the handicapped (Bryant, 1982; Clore and Jeffery, 1972; Donaldson, 1980; Kalliopuska, 1983; Ryan, 1981). For example, Clore and Jeffery (1972) contended that empathy, aroused through the experience of role-playing a disability, would eventuate in the formation of more positive attitudes toward handicapped persons.

Developmental evidence further supports this hypothesis. As indicated by Hoffman (1982), children begin to develop empathic ability almost from birth. This initial form of empathy is a crude and undifferentiated response to the distress of others, yet nevertheless, it does provide

the basis for more advanced expressions of empathy in later years. Comparatively, children's attitudes toward handicapped individuals are developed much later in life. Jones and Sisk (1967) found that children could first perceive handicaps and understand what they entail by around the age of four, and that by five years of age, children may start to reject the handicapped. Thus, as empathy is developmentally antecedent to attitudes toward the handicapped, empathic ability is more likely to influence the formation of these attitudes than vice versa, at least in the primary years of development.

Although it may be hypothesized that empathy influences the formation of attitudes toward the handicapped, the process through which this influence occurs is not clear. As the IECA is purported to measure emotional rather than cognitive elements involved in empathy (Bryant, 1982), the finding of a significant relationship between IECA scores and attitudes toward handicapped peers corresponds with Kalliopuska's (1983) tenet that the emotional component of empathy provides the basis for developing positive attitudes. Thus, the development of positive attitudes toward the handicapped can be seen as occurring partially through the process of experiencing the feelings of a handicapped person.

Staub (1987) describes affective empathy "as a source of connection between people that leads to a positive mode

of relating to others" (p.110). He further suggests that this emotional connection can lead to positive feelings toward human beings in general. In accordance with Staub's view, the development of positive attitudes toward the handicapped may come about, not only through experiencing the feelings of a handicapped individual, but also through experiencing a connection with that person.

Other theories explaining the formation of positive attitudes toward the handicapped are not incompatible with the findings in this study. As previously discussed, Donaldson (1980) suggested that attitudes may be modified through the processes of discomfort reduction and information acquisition. According to her discomfort reduction hypothesis, negative attitudes tend to develop when a nonhandicapped individual feels fearful and uncomfortable as he or she encounters someone with a handicap. In line with this hypothesis, positive attitudes are seen as resulting from the reduction of this negative experience. In accordance with the information acquisition hypothesis, positive attitudes develop through receiving information that is sufficiently credible to discredit previously held stereotypes or prejudices toward the handicapped.

Empathic ability may also be involved in these two mechanisms of attitude change. In experiencing an empathic connection with handicapped individuals one may feel less

fear or discomfort when encountering them, or be more open to receiving nonstereotypic information about them. This conclusion corresponds with findings from recent research evaluating empathy and attitudes toward patients with acquired immune deficiency syndrome (AIDS). It has been found that greater empathy is significantly associated with lower fear of AIDS and more positive attitudes toward AIDS victims (Dhooper, Royse & Tran, 1988; Royse & Birge, 1987; Royse, Dhooper & Hatch, 1987). Furthermore, increased knowledge about AIDS has also been associated with greater empathy and these factors have been shown to contribute to more positive attitudes toward individuals with this syndrome (Dhooper, Royse and Tran, 1988; Royse, Dhooper, & Hatch, 1987).

Gender Differences in Empathy and Attitudes

The finding that females had higher scores on both the IECA and the CATCH, suggests that they were more empathic and had more positive attitudes toward handicapped peers than males. This result provides support for the second research hypothesis and is consistent with previous research reporting gender differences on empathy and attitudes (Bryant, 1982; Mehrabian, Young and Sato, 1988; Rosenbaum, Armstrong, and King, 1986a). As empathic ability and attitudes toward handicapped peers were found to be correlated in this study, gender differences on one measure

would be expected to be present on the other. The finding that females scored significantly higher than males on both the IECA and the CATCH is in line with this prediction and thus, provides further support for the existence of the relationship between empathy and attitudes.

The socialization processes for males and females may be seen as accounting for the gender differences in empathic ability and attitudes toward the handicapped, in that females may be raised to respond to others more sympathetically and sensitively than males (Lennon & Eisenberg, 1987). However, it may also be that this gender difference is due to a bias inherent in self-report questionnaires, which as reported by Lennon and Eisenberg (1987), tends to favor females over males. These authors contend that gender differences arise when responding to self-report questionnaires because:

... both males and females may respond in ways consistent with sexrole stereotypes when directly asked to report on sex-typed characteristics (p. 200).

Thus, if females are expected by society to be more empathic and more positive toward handicapped persons than males, they may provide responses that coincide with these stereotypic expectations. In order to test whether the present findings reflect genuine gender differences in empathy and attitudes or simply gender response biases, methods other than self-report techniques would have to be implemented in future research.

Developmental Differences in Empathy and Attitudes

The results of the present study also support the third research hypothesis predicting higher empathy and more positive attitudes in children at higher grade levels. That positive attitudes and empathic ability were both found to increase with age corresponds with the model outlined by Ryan (1981). Ryan indicated that from the ages of four to eight, children progress from being egocentric and unable to understand someone else's subjective perspective to being able to accurately perceive another's feelings and internal states. By the age of ten, children are able take another person's perspective and are able to gain an empathic understanding of someone else's experience. Ryan asserted that these developmental differences in role-taking ability parallel the changes in children's responses to handicapped individuals in that attitudes become more positive as empathic or role-taking ability develops.

However, Ryan (1981) further noted that as children enter into adolescence, their role-taking ability broadens so that they integrate the perspectives of their peer group and of society into their own view. Unfortunately, this may also involve incorporating the prejudices of society into their perspective. In this study, the mean CATCH score for the grade six subjects was slightly lower (although not significantly) than that for the grade five subjects. This finding may be attributed to the grade six children entering

into adolescence and hence adopting more negative attitudes or prejudices. Although attitudes became more negative, role-taking or empathic ability was still found to increase at the highest grade level, as predicted by Ryan's model.

Effects of the Attitude Modification Intervention

The "Kids on the Block" intervention was successful in improving children's attitudes toward handicapped peers as assessed by the CATCH, thus supporting the fourth research hypothesis in this study. After the intervention, children in the experimental group developed significantly more positive attitudes than children in the control group. This finding is in accordance with most of the previous "Kids on the Block" studies, which found the intervention to be effective in improving attitudes (Gilfoyle & Gliner, 1985; Grider, 1985; Powell, 1985; Snart & Maguire, 1986).

However, the results of the present study contradict the research of Rosenbaum et al. (1986b), which determined that the "Kids on the Block" did not produce a measurable change in attitudes toward handicapped peers as assessed by the CATCH. Rosenbaum et al. suggested that the CATCH may not have detected a change in attitudes as a result of the intervention because of a ceiling effect, i.e., children participating in the study may have already had such positive attitudes, that there was no room for improvement. If this hypothesis is correct, then the CATCH scores of the

subjects in the present study may have been somewhat lower so that improvements in attitudes could be found.

In the present study, the effect of the intervention was found not only to be significant, but also to be extremely worthwhile, as evidenced by the moderately large size of the effect. The effect size indicates that approximately 75% of children in the experimental group had attitude change scores above the mean change score of children in the control group. As prior studies did not provide information concerning effect sizes, it is not possible to make any comparisons. According to Miller (1987), this is not surprising, as very few estimates of effect size are provided in developmental research. Nevertheless, it can be concluded that the "Kids on the Block" presentation is very powerful in eliciting a positive change in attitudes toward handicapped peers.

The finding that empathic ability did not change in response to the intervention was also of interest. The IECA is purported to measure trait, rather than state, empathy and thus one would expect that scores should remain stable over time, irrespective of the attitude modification intervention. Although there seemed to be practice effects within some groups as a result of completing the IECA twice, there was little change in scores as a result of the intervention. This score stability lends support to the construct validity of the IECA as a measure of trait

empathy. This finding is also important in light of the premise that empathy influences the development of positive attitudes toward the handicapped in a unidirectional manner. If indeed empathy is an antecedent to the formation of positive attitudes rather than the reverse, it would be expected that a change in attitudes would not have an impact upon empathic ability. This supposition was supported by the findings.

Empathy as a Mediator of the Attitude Modification Intervention

Contrary to the prediction of the fifth hypothesis, empathy was not found to be related to the degree of change in attitudes toward the handicapped as a result of the "Kids on the Block" intervention. Although this finding may call into question the role of empathy in attitude modification, it is also plausible that the nature of the intervention may have been incongruent with empathically-induced attitude change. It may be that the characters portrayed by the "Kids on the Block" puppets were not perceived as being sufficiently 'human' for the children to respond empathically toward them or that the degree of contact was not appropriate to produce an empathic connection between the children and the puppets.

This explanation is congruent with Rosenbaum et al.'s (1986b) finding that children responded with improved

attitudes to a buddy experience, whereas they did not to the "Kids on the Block" intervention. In accordance with the hypothesis that an empathic connection with a handicapped person may lead to the formation of more positive attitudes, it is likely that improved attitudes would have resulted from a buddy experience because of the opportunity to feel empathically connected with a handicapped person.

Furthermore, as empathic ability and attitudes toward the handicapped are related, Rosenbaum et al.'s hypothesized ceiling effect may reflect the selection of students with initially high levels of both attitudes and empathy. The buddy experience may have enabled the children to utilize their advanced empathic ability to develop positive attitudes, whereas the "Kids on the Block" may not have provided an outlet for empathic connection.

As empathy was not related to CATCH score change in the present study, the increase in children's CATCH scores after the intervention may reflect more of a cognitive shift in attitudes than an affective one. This shift may have resulted from the acquisition of new information about handicapped individuals. A cognitive shift in attitudes would fit with the findings of previous "Kids on the Block" studies which reported consistent increases in knowledge of handicapped individuals, but inconsistent changes in feelings toward the handicapped as a result of the intervention (Gilfoyle and Gliner, 1985; Powell, 1985). In

order to achieve a more comprehensive change in attitudes, encompassing both cognitive and affective aspects, in addition to providing information about the handicapped, it may be necessary to provide a channel for the development of an empathic connection with a handicapped individual.

Implications of the Findings

The results of the present study have important educational and research implications. The finding of a relationship between empathic ability and attitudes toward the handicapped indicates a new basis for attitude modification interventions. In order to improve non-handicapped children's attitudes toward their handicapped peers, it may be useful to first develop their empathic skills. One way to achieve this goal is through the use of affective education programs which are aimed at facilitating the development of empathic abilities in children. Programs of this nature, such as Project Aware (Elardo and Cooper, 1977) have already been incorporated into some educational settings. This recommendation is in accordance with Horne's (1987) suggestion that the teaching of affective skills should "become an integral part of the curriculum and receive no less emphasis than cognitive goals" (p. 238). As previously discussed, the ability to empathize with handicapped peers may also be influenced more directly through empathically related intervention programs focusing

specifically on handicapped individuals. Training in empathic ability, in association with the "Kids on the Block" program, may lead to even more pronounced attitude changes than those found in the present study.

Furthermore, the finding of gender differences in empathic ability and attitudes toward handicapped peers, indicates a need to be sensitive toward differing patterns of socialization for males and females. Males may require extra encouragement to overcome sex-role stereotypes that categorize empathy and concern for others as 'unmasculine' traits. Thus, simply teaching empathic skills may not be sufficient to increase empathic ability and positive attitudes; the untraining of previously held sex-role stereotypes may also be needed.

Examination of the developmental differences in empathy and attitudes toward handicapped peers indicated that there was a slight decrease in positive attitudes at the grade six level. As this result may reflect the tendency of adolescents to incorporate the values of society, it may be optimal to intervene with an attitude modification program at this age level. Additionally, as the empathic ability of this group was the highest, these children may be well suited to respond to a program that enables them to develop an empathic connection with a handicapped person.

Although changes resulting from the "Kids on the Block" intervention were not related to empathic ability, the

program was nevertheless successful in producing positive attitude changes. As there is clearly a need within educational settings for techniques that result in the formation of positive attitudes toward handicapped individuals, a program like the "Kids on the Block" which can elicit these changes in a brief amount of time is greatly in demand. Although it is difficult to ascertain how long the changes may persist, the results of this study support the value of this intervention program.

Limitations of the Study

Two methodological limitations within this research require that the findings be interpreted with some caution. First, as the "Kids on the Block" presentations were prescheduled at schools selected by the program's co-ordinator, it was not possible to conduct a random assignment of subjects to the experimental groups. Thus, it cannot be ruled out that a selection bias or a violation of the assumptions regarding the normal distribution of error variance within the sample may have occurred. It is, therefore, difficult to determine whether differences found between the experimental and control groups occurred as a result of the intervention, or to some variable that was unaccounted for by the research design.

The second limitation of this research was in the use of self-report questionnaires to measure empathy and

attitudes toward handicapped peers. Although self-report measures can be administered with ease, one has to trade off this convenience for lowered validity. As Batson (1987) noted, individuals may tend to overreport or underreport particular responses in order to present themselves in a certain light. For instance, males may report less empathic responses or more negative attitudes in order to appear tough and unemotional. Thus, measures are needed that are more objective and less influenced by self-presentation concerns. Unfortunately, alternative methods for measuring empathic ability and attitudes toward the handicapped are not available at the present time.

Recommendations for Future Research

Future research investigating empathic ability and attitudes toward handicapped individuals should focus on programs that would be more likely to work through the process of developing an empathic connection with a handicapped person. Experiences such as Rosenbaum et al.'s (1986) buddy program, may provide the appropriate medium through which empathic ability could moderate the formation of positive attitudes toward the handicapped.

Moreover, to further test Ryan's (1981) developmental model, a greater range of children's ages, extending below grade four and above grade six, should be utilized. A greater age range will more clearly outline the influence of

developmental differences in empathic or role-taking ability on the formation of positive attitudes toward handicapped individuals.

Furthermore, it may be important to determine the stability of changes resulting from the "Kids on the Block" intervention. As the post-test, in the present study, was conducted after only one week, it is difficult to hypothesize how stable the effects may have been. Thus, studies are needed which assess post-intervention changes at various time intervals following the "Kids on the Block" program. In addition, it would be of interest to compare the stability of changes resulting from the "Kids on the Block" program to those ensuing from interventions which may implement more affective attitude changes, such as those resulting from an empathic connection with a handicapped person.

Finally, future research should address the limitations of the present study in order to improve upon its methodology.

APPENDIX A

CHEDOKE-MCMASTER ATTITUDES TOWARD
HANDICAPPED CHILDREN SCALE

QUESTIONNAIRE ABOUT HANDICAPPED CHILDREN

GRADE _____

DATE / /
 month day year

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|----|

| |
|----|
| 11 |
|----|

| | | | | | |
|----|----|----|----|----|----|
| 12 | 13 | 14 | 15 | 16 | 17 |
|----|----|----|----|----|----|

| | |
|----|----|
| 18 | 19 |
|----|----|

| |
|----|
| 20 |
|----|

| | |
|----|----|
| 21 | 22 |
|----|----|

| |
|----|
| 23 |
|----|

| |
|----|
| 24 |
|----|

| | | | |
|----|----|----|----|
| 25 | 26 | 27 | 28 |
|----|----|----|----|

| |
|----|
| 29 |
|----|

| |
|----|
| 30 |
|----|

| | | |
|----|----|----|
| 31 | 32 | 33 |
|----|----|----|

| | | |
|----|----|----|
| 34 | 35 | 36 |
|----|----|----|

1. Do you have a handicap? Yes _____ No _____

a) If yes, in what way are you handicapped?

2. Do you have a friend who is handicapped? Yes _____ No _____

a) If yes, does he/she go to your school? Yes _____ No _____

b) What is his/her name?

3. In the last week have you talked to or played with a child who is handicapped? Yes _____ No _____

4. Is anyone in your family handicapped? Yes _____ No _____

a) If yes, is it your:

Mother _____ Father _____ Brother/Sister _____

Grandparents _____ Aunt/Uncle _____ Cousin _____

EXAMPLES OF HOW TO FILL OUT THE FORM:

1. I enjoy talking to old people.

STRONGLY DISAGREE
 DISAGREE
 CAN'T DECIDE
 AGREE
 STRONGLY AGREE

2. Old people have difficulty remembering things.

STRONGLY DISAGREE
 DISAGREE
 CAN'T DECIDE
 AGREE
 STRONGLY AGREE

- THERE ARE NO RIGHT OR WRONG ANSWERS. WE JUST WANT TO KNOW YOUR IDEAS.

- PLEASE DO NOT READ AHEAD.

- THINK ABOUT EACH SENTENCE CAREFULLY. 69

1. I wouldn't worry if a handicapped child sat next to me in class.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

2. I would not introduce a handicapped child to my friends.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

3. Handicapped children can do lots of things for themselves.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

4. I wouldn't know what to say to a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

5. Handicapped children like to play.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

6. I feel sorry for handicapped children.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

7. I would stick up for a handicapped child who was being teased.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

8. Handicapped children want lots of attention from adults.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

9. I would invite a handicapped child to my birthday party.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

10. I would be afraid of a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

11. I would talk to a handicapped child I didn't know.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

12. Handicapped children don't like to make friends.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

13. I would like having a handicapped child live next door to me.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

14. Handicapped children feel sorry for themselves.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

15. I would be happy to have a handicapped child for a special friend.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

16. I would try to stay away from a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

17. Handicapped children are as happy as I am.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

18. I would **not** like a handicapped friend as much as my other friends.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

19. Handicapped children know how to behave properly.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

20. In class I wouldn't sit next to a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

21. I would be pleased if a handicapped child invited me to his house.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

22. I try not to look at someone who is handicapped.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

23. I would feel good doing a school project with a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

24. Handicapped children don't have much fun.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

25. I would invite a handicapped child to sleep over at my house.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

26. Being near someone who is handicapped scares me.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

27. Handicapped children are interested in lots of things.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

28. I would be embarrassed if a handicapped child invited me to his birthday party.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

29. I would tell my secrets to a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

30. Handicapped children are often sad.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

31. I would enjoy being with a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

32. I would not go to a handicapped child's house to play.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

33. Handicapped children can make new friends.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

34. I feel upset when I see a handicapped child.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

35. I would miss recess to keep a handicapped child company.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

36. Handicapped children need lots of help to do things.

STRONGLY DISAGREE DISAGREE CAN'T DECIDE AGREE STRONGLY AGREE

APPENDIX B

INDEX OF EMPATHY
FOR CHILDREN AND ADOLESCENTS

EXAMPLES

- YES NO A. I like to eat spinach.
- YES NO B. I don't like ice cream.
- YES NO 1. It makes me sad to see a girl who can't find anyone to play with.
- YES NO 2. People who kiss and hug in public are silly.
- YES NO 3. Boys who cry because they are happy are silly.
- YES NO 4. I really like to watch people open presents, even when I don't get a present myself.
- YES NO 5. Seeing a boy who is crying makes me feel like crying.
- YES NO 6. I get upset when I see a girl being hurt.
- YES NO 7. Even when I don't know why someone is laughing, I laugh too.
- YES NO 8. Sometimes I cry when I watch T.V.
- YES NO 9. Girls who cry because they are happy are silly.
- YES NO 10. It's hard for me to see why someone else gets upset.
- YES NO 11. I get upset when I see an animal being hurt.
- YES NO 12. It makes me sad to see a boy who can't find anyone to play with.
- YES NO 13. Some songs make me so sad I feel like crying.
- YES NO 14. I get upset when I see a boy being hurt.
- YES NO 15. Grownups sometimes cry even when they have nothing to be sad about.
- YES NO 16. It's silly to treat dogs and cats as though they have feelings like people.
- YES NO 17. I get mad when I see a classmate pretending to need help from the teacher all the time.
- YES NO 18. Kids who have no friends probably don't want any.
- YES NO 19. Seeing a girl who is crying makes me feel like crying.
- YES NO 20. I think it is funny that some people cry during a sad movie or while reading a sad book.
- YES NO 21. I am able to eat all my cookies even when I see someone looking at me wanting one.
- YES NO 22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules.

APPENDIX C

PARENTAL CONSENT FORM

APPENDIX D

CATCH INSTRUCTIONS

INTRODUCTION AND INSTRUCTIONS FOR CATCH QUESTIONNAIRE

I'm _____ from the Univ. of Windsor. We are doing a survey to find out a little bit about boys and girls your age and about what you know and think about handicapped children. I have a questionnaire that I'm going to ask you to fill out. When your teacher calls your name, please come up to get your questionnaire and leave it face down on your desk until we are ready to begin.

1. CATCH

This questionnaire is about what you know and think about handicapped children. You may have a handicap or you may know someone who is handicapped. Being handicapped means having trouble walking, talking, using your arms and hands, seeing, hearing or learning. Usually people who have handicaps have them for a long period of time unlike other people who may have a cold or a broken leg that usually gets better after a short time.

(HAVE STUDENTS FILL IN GRADE AND DATE AT TOP.) Please do not write in the boxes here on the right hand side. I will explain this form step-by-step. (READ EACH QUESTION 1-4 AND HAVE THEM COMPLETE EACH. DO NOT COMPLETE 2B.)

At the bottom of the page, there are some examples of how to fill out this questionnaire. First read the statement to yourself and then decide how you feel about the statement. You have 5 boxes to choose from (POINT TO). The first example says: (READ IT ALOUD). If you really hate talking to old people, then maybe you'd pick the box "Strongly Disagree" because you do not agree with the statement at all; or maybe you just dislike talking to old people, so you might pick the "Disagree" box; or maybe you just don't really know how you feel about the statement so you might pick the "Can't Decide" box; or maybe you do enjoy talking to old people so you might pick the box marked "agree"; or maybe you really do enjoy talking to old people, so you might pick the "Strongly Agree". Decide how you feel about the statement and then mark one of the 5 boxes - put an X through it or circle it. (ASK THEM IF THERE ARE ANY QUESTIONS ABOUT HOW TO COMPLETE IT AND ASK THEM TO TRY THE NEXT EXAMPLE. REPEAT ABOVE STATEMENTS ABOUT EACH RESPONSE IF NECESSARY. READ THE INSTRUCTIONS AT THE BOTTOM OF THE PAGE.) Go ahead and do the next four pages.

When you are finished, please check over - make sure every statement is answered.

APPENDIX E

IECA INSTRUCTIONS

BRYANT'S (1982) EMPATHY MEASURE

Warmup to Neutralize Pre-existing States

INTRO SHEET

8-9 YEAR OLDS

"YES OR NO"

TO BE READ TO THE CHILD

I'm going to read to you some statements that may or may not describe you. I want you to let me know if a statement describes you or not. These statements are about how you would think and feel in many different situations. There are no right or wrong answers, just let me know which statements describe you. No one but myself will see your answers to these statements; your parents won't see them, only me. Remember, this is not a test, so you can relax. Since there are no right or wrong answers, everyone will have different answers. That is O.K. I am just interested in how (boys/girls) your age feel about these things. **

I will read you a statement, and I would like you to let me know how you think or feel by circling either "yes" or "no," whichever describes how you would feel about the statement. For example, look at example A at the top of your paper. "I like to eat Spinach." Are you able to find this example? Next to the statement "I like to eat spinach" are the words "Yes" and "No." I would like you to circle the word which best describes how you would feel about eating spinach. Some people like to eat spinach, so they would circle "Yes" and some people don't like to eat spinach and they would circle "No." Either answer is O.K. to make depending on how you feel about spinach. Do you understand how you would let me know what you think: Let's try another example. Here is example B, "I don't like ice cream." Circle "Yes" if this statement describes you, and circle "No" if this statement does not describe you. O.K.? Let's try the next statement . . .

** The decision to take part in answering the questionnaires is up to you. If you do decide not to participate, please let me know. Also, if at any point after you get your questionnaire, you decide that you no longer wish to answer the questions, just put up your hand and I'll come talk to you. There is no penalty for not doing the questionnaires. If you have any questions, please feel free to ask them at any time.

APPENDIX F

MEANS AND STANDARD DEVIATIONS
FOR THE GENDER BY GRADE SUBGROUPS

Table F-1

Means and Standard Deviations for Pre and Post-CATCH Scores
for Gender by Grade Subgroups

| | Group | | | |
|--------------------|--------------------|-------------------|-------------------|-------------------|
| | Experimental Group | | Control Group | |
| | Pre-CATCH | Post-CATCH | Pre-CATCH | Post-CATCH |
| Grade Four Males | 82.79 (14.05) | 93.21 (17.07) | 94.50 (20.28) | 96.83 (25.50) |
| Grade Five Males | 100.23 (23.66) | 103.08 (27.90) | 98.38 (18.63) | 97.62 (23.24) |
| Grade Six Males | 97.70 (15.30) | 99.40 (22.49) | 102.17 (14.15) | 98.33 (16.11) |
| Grade Four Females | 100.33 (15.50) | 108.61 (17.82) | 100.50 (17.74) | 101.17 (20.99) |
| Grade Five Females | 104.48 (14.52) | 108.74 (14.46) | 111.94 (16.68) | 108.83 (19.16) |
| Grade Six Females | 99.90 (13.51) | 108.95 (12.81) | 107.33 (13.39) | 108.26 (17.29) |

Note. Numbers in parentheses indicate the standard deviation from the mean.

Table F-2

Means and Standard Deviations for Pre and Post-IECA Scores
for Gender by Grade Subgroups

| | Group | | | |
|--------------------|--------------------|-----------------|-----------------|-----------------|
| | Experimental Group | | Control Group | |
| | Pre-IECA | Post-IECA | Pre-IECA | Post-IECA |
| Grade Four Males | 12.00 (2.60) | 11.00 (2.60) | 13.83 (3.49) | 11.78 (3.90) |
| Grade Five Males | 14.77 (3.09) | 13.46 (4.41) | 13.88 (2.03) | 14.23 (2.57) |
| Grade Six Males | 14.00 (4.62) | 13.80 (4.16) | 14.50 (3.15) | 13.17 (2.33) |
| Grade Four Females | 14.11 (3.39) | 15.61 (3.82) | 14.39 (3.50) | 15.78 (3.06) |
| Grade Five Females | 15.04 (3.14) | 15.13 (3.44) | 15.61 (2.99) | 14.72 (3.06) |
| Grade Six Females | 15.20 (2.93) | 15.95 (2.86) | 15.96 (2.88) | 15.77 (2.81) |

Note. Numbers in parentheses indicate the standard deviation from the mean.

APPENDIX G

PRE-INTERVENTION CORRELATIONS
FOR GENDER BY GRADE SUBGROUPS

Table G-1

Pre-Intervention Correlations of CATCH and IECA Scores for
Gender by Grade Subgroups

| Group | <u>r</u> | <u>p</u> |
|--------------------|----------|----------|
| Grade Four Males | .44 ** | .006 |
| Grade Five Males | .49 *** | .001 |
| Grade Six Males | .24 | .143 |
| Grade Four Females | .48 ** | .002 |
| Grade Five Females | .40 ** | .005 |
| Grade Six Females | .59 *** | .000 |

Note. *** = $p \leq .001$, ** = $p \leq .01$ (one-tailed test of significance).

APPENDIX H

TUKEY'S HSD POST-HOC COMPARISONS
FOR THE GENDER BY GRADE SUBGROUPS
ON CATCH CHANGE SCORES

Table H-1

Tukey's HSD Post-Hoc Comparisons for the Grade by Gender Interaction on CATCH Change Scores

| Group | Group | | | | | |
|-------------------------|-------|----|----|----|----|----|
| | 4M | 5M | 6M | 4F | 5F | 6F |
| Grade Four Males (4M) | | | | | | |
| Grade Five Males (5M) | - | | | | | |
| Grade Six Males (6M) | - | - | | | | |
| Grade Four Females (4F) | - | - | - | | | |
| Grade Five Females (5F) | * | - | - | - | | |
| Grade Six Females (6F) | * | - | - | - | - | |

Note. * denotes pairs of groups significantly different at the 0.05 level.

REFERENCES

- Archer, R., Diaz-Loving, R., Gollwitzer, P., Davis, M. & Foushee, H. (1981). The role of dispositional empathy and social evaluation in the empathic mediation of helping. Journal of Personality & Social Psychology, 40, 786-796.
- Barnett, M., Feighny, K. & Esper, J. (1983). Effects of anticipated victim responsiveness and empathy upon volunteering. The Journal of Social Psychology, 119, 211-218.
- Barnett, M., Howard, J., King, L. & Dino, G. (1981). Helping behavior and the transfer of empathy. The Journal of Social Psychology, 115, 125-132.
- Barnett, M. & Thompson, S. (1984). The role of perspective taking and empathy in children's machiavellianism, prosocial behavior, and motive for helping. The Journal of Genetic Psychology, 146 (3), 295-305.
- Batson, C. (1987). Self-report ratings of empathic emotion. In N. Eisenberg & J. Strayer (Eds.), Empathy and its development (pp. 356-361). Cambridge: Cambridge University Press.
- Bryant, B. (1982). An index of empathy for children and adolescents. Child Development, 53, 413-425.

- Bryant, B. (1987). Critique of comparable questionnaire methods in use to assess empathy in children and adults. In N. Eisenberg & J. Strayer (Eds.), Empathy and its development (pp. 361-373). Cambridge: Cambridge University Press.
- Children's Rehabilitation Centre of Essex County. (1986). Kids on the Block: Introduction. Windsor, Ontario: Author.
- Clore, G. & Jeffery, K. (1972). Emotional role playing, attitude change, and attraction toward a disabled person. Journal of Personality and Social Psychology, 23, 105-111.
- Cohen, J. (1977). Statistical power analysis for the behavioral sciences (rev. ed). New York: Academic Press.
- Dhooper, S., Royse, D. & Tran, T. (1988). Social work practitioners' attitudes towards AIDS victims. Journal of Applied Social Sciences, 12 (1), 108-123.
- Donaldson, J. (1980). Changing attitudes toward handicapped persons: A review and analysis of research. Exceptional Children, 46 (7), 504-514.
- Elardo, P. & Cooper, M. (1977). Project AWARE: A handbook for teachers. Reading, MA: Addison-Wesley.
- Esposito, B. & Peach, W. (1983). Changing attitudes of preschool children toward handicapped persons. Exceptional Children, 49 (4), 361-363.

- Esposito, B. & Reed, T. (1986). The effects of contact with handicapped persons on young children's attitudes. Exceptional Children, 53 (3), 224-229.
- Feshbach, N. & Roe, K. (1968). Empathy in six- and seven-years olds. Child Development, 39, 133-145.
- Fiedler, C. & Simpson, R. (1987). Modifying the attitudes of nonhandicapped high school students toward handicapped peers. Exceptional Children, 53 (4), 342-349.
- Furnham, A. & Gibbs, M. (1984). School children's attitudes towards the handicapped. Journal of Adolescence, 7, 99-117.
- Gilfoyle, E. & Gliner, J. (1985). Attitudes toward handicapped children: Impact of an educational program. Physical and Occupational therapy in Pediatrics, 5 (4), 27-41.
- Gladstein, G. (1983). Understanding empathy: Integrating counseling, developmental and social psychology perspectives. Journal of Counseling Psychology, 30 (4), 467-482.
- Grider, S. (1985). A study of an effort to modify nonhandicapped students' attitudes toward the handicapped. Unpublished doctoral dissertation, The College of William and Mary, Williamsburg, VA.
- Harper, D., Wacker, D. & Cobb, L. (1986). Children's social preferences toward peers with visible physical

- differences. Journal of Pediatric Psychology, 11 (3), 323-342.
- Hazzard, A. & Baker, B. (1982). Enhancing children's attitudes toward disabled peers using a multi-media intervention. Journal of Applied Developmental Psychology, 3, 247-262.
- Higgs, R. (1975). Attitude formation-contact or information?. Exceptional Children, 41, 496-497.
- Hoffman, M. (1977). Sex differences in empathy and related behaviors. Psychological Bulletin, 84, 712-722.
- Hoffman, M. (1982). The measurement of empathy. In C. Izard (Ed.), Measurement of emotions in infants and children (pp. 279-296). New York: Cambridge University Press.
- Horne, M. (1985). Attitudes toward handicapped students: Professional, peer and parent reactions. New Jersey: Lawrence Erlbaum Associates.
- Horne, M. & Ricciardo, J. (1988). Hierarchy of response to handicaps. Psychological Reports, 62, 83-86.
- Inderbitzen, H. & Best, D. (1986). Children's attitudes toward physically handicapped peers. Journal of Applied Developmental Psychology, 7, 417-428.
- Jones, R. & Sisk, D. (1967). Early perceptions of orthopedic disability. Exceptional Children, 31, 42-43.

- Jones, T., Sowell, V., Jones, S. & Butler, L. (1981).
Changing children's perceptions of handicapped people.
Exceptional Children, 47 (5), 365-368.
- Kalliopuska, M. (1983). Empathy in school students. Finland
(ERIC Document Reproduction Service No. ED 240 423).
- Lennon, R. & Eisenberg, N. (1987). Gender and age
differences in empathy and sympathy. In N. Eisenberg
and J. Strayer (Eds.) Empathy and its development.
(pp. 195-217) Cambridge: Cambridge University Press.
- Leyser, Y. & Price, S. (1984). Improving attitudes of
gifted children toward the handicapped. Education, 105
(4), 432-437.
- MacQuiddy, S., Maise, S. & Hamilton, S. (1987). Empathy and
affective perspective taking skills in parent-
identified conduct-disordered boys. Journal of
Clinical Child Psychology, 16 (3), 260-268.
- Margo, B. (1983). Modifying attitudes toward physically
handicapped children. Perceptual and Motor Skills, 56,
1002.
- McKerracher, W. (1982). Changing children's attitudes
toward the physically disabled. Victoria: Victoria
Education Department, Australia. (ERIC Document
Reproduction Service No. ED 225 192).
- Mehrabian, A. & Epstein, N. (1972). A measure of emotional
empathy. Journal of Personality, 40 (4), 525-543.

- Mehrabian, A., Young, A. & Sato, S. (1988). Emotional empathy and associated individual differences. Current Psychology: Research & Reviews, 7 (3), 221-240.
- Miller, S. (1987). Developmental Research Methods. Engelwood Cliffs, NJ.: Prentice-Hall, Inc.
- Norusis, M. (1988). SPSS-X advanced statistics guide. Chicago, IL.: SPSS Inc.
- Powell, K. (1985). Disability awareness and attitudes of nonhandicapped children toward severely disabled (Doctoral Dissertation, Arizona State University, 1985). Dissertation Abstracts International, 46 (05), 1151A.
- Rapier, J., Adelson, R., Carey, R. & Croke, K. (1972). Changes in children's attitudes toward the physically handicapped. Exceptional Children, 39, 219-223.
- Richardson, S. (1970). Age and sex differences in values toward physical handicaps. Journal of Health and Social Behavior, 11, 207-214.
- Rosenbaum, P., Armstrong, R. & King, S. (1986a). Children's Attitudes toward disabled peers: A self-report measure. Journal of Pediatric Psychology, 11 (4), 517-530.
- Rosenbaum, P., Armstrong, R. & King, S. (1986b). Improving attitudes toward the disabled: A randomized controlled trial of direct contact versus Kids-on-the-Block. Journal of Developmental and Behavioral Pediatrics, 7 (5), 302-307.

Rosenbaum, P., Armstrong, R. & King, S. (1988).

Determinants of Children's Attitudes toward Disability:
A Review of the Evidence. Children's Health Care,
17(1), 32-39.

Royal, G. & Roberts, M. (1987). Students' perceptions of
and attitudes toward disabilities: A comparison of
twenty conditions. Journal of Clinical Child
Psychology, 16 (2), 122-132.

Royse, D. & Birge, B. (1987). Homophobia and attitudes
towards AIDS patients among medical, nursing, and
paramedical students. Psychological Reports, 61 (3),
867-870.

Royse, D., Dhooper, S. & Hatch, L. (1987). Undergraduate
and graduate students' attitudes toward AIDS.
Psychological Reports, 60 (3, Pt.2), 1185-1186.

Ryan, K. (1981). Developmental differences in reactions to
the physically disabled. Human Development, 24,
240-256.

Selman, R. L. (1971). Taking another's perspective:
Role-taking development in early childhood. Child
Development, 42, 1721-1734.

Shaver, J. (1987). The modification of attitudes toward
persons with handicaps: A comprehensive integrative
review of research. Final report. (Report No. MF03-
PC24). Logan, UT: Utah State University, Bureau of
Education Research. (ERIC Document Reproduction Service

No. ED 285345)

- Sigelman, C. & McGrail, L. (1985). Developmental differences in evaluative reactions to physically and mentally handicapped children. Journal of Social and Clinical Psychology, 3 (3), 352-366.
- Sigelman, C., Miller, T. & Whitworth, L. (1986). The early development of stigmatizing reactions to physical differences. Journal of Applied Developmental Psychology, 7, 17-32.
- Snart, F. & Maguire, T. (1986). Using puppets to increase children's knowledge and acceptance of handicapped peers. Canadian Journal for Exceptional Children, 3 (2), 57-59.
- Staub, E. (1987). Commentary on the historical and theoretical perspectives of empathy. In N. Eisenberg & J. Strayer (Eds.), Empathy and its Development, pp. 103-119. Cambridge: Cambridge University Press.
- Tringo, J. (1970). The hierarchy of preference toward disability groups. The Journal of Special Education, 4 (3), 295-305.
- Westervelt, V. & McKinney, J. (1980). Effects of a film on nonhandicapped children's attitudes toward handicapped children. Exceptional Children, 46 (4), 294-296.
- Zimbardo, P. (1988). Psychology and Life (Twelfth Ed.). Glenview, IL.: Scott, Foresman and Company.

VITA AUCTORIS

Cornelia Linda Illmann was born on August 25, 1964 in Stratford, Ontario. She graduated from Stratford Central Secondary School in June, 1983. She received her Honours Bachelor of Arts degree from Wilfrid Laurier University, Waterloo in May, 1987. Currently, she is enrolled in the doctoral program in Developmental Psychology at the University of Windsor.