Utilizing Social Skills Training to Increase Interpersonal Skills and Environment Satisfaction

by

Amanda Morey

A thesis submitted to the School of Community Services

in partial fulfillment of the requirements for

the degree of

Bachelor of Applied Arts in Behavioural Psychology

St. Lawrence College

Kingston, Ontario

Canada

April 20th, 2012
DEDICATION

This thesis is dedicated to all of those who have provided me with support over the past four years in the Behavioural Psychology Program. I would not have made it this far without all of you.
ABSTRACT

The purpose of the study was to investigate if a social skills training procedure could increase the frequency of appropriate social skills used in two elderly individuals with intellectual and developmental disabilities who were living together in a group home environment. It was further hoped that the participants' satisfaction with their environment would be increased as they developed a closer working relationship as a result of the intervention. A modified social skills training (SST) program was used that included an explanation of the importance of working together collaboratively, a demonstration of the skills through modeling, role-plays and feedback with reinforcement. The focus of the intervention was centered on three daily activities that the participants were expected to complete together: the activities included reading the newspaper, riding in the elevator appropriately, and washing their laundry. Additionally, the intervention was designed to be implemented by a single staff member at the group home, for convenience of the agency, and to allow for maintenance of the program after the conclusion of the study. The results supported that the SST procedure was effective as each participants' frequency of appropriate social skills during the three activities was increased. Additionally, their environment satisfaction on a self-reported questionnaire improved. Further recommendations for the study were to implement the program with multiple staff members to allow for a better demonstration of the appropriate social skills being trained.
ACKNOWLEDGMENTS

I wish to thank my thesis supervisor, Yolanda Fernandez Ph.D, for all of the guidance and support she has provided me with. I would also like to acknowledge my field supervisor and the staff members at the agency for the support they’ve given me.
TABLE OF CONTENTS

DEDICTION .............................................................................................................ii
ABSTRACT ...............................................................................................................iii
ACKNOWLEDGMENT ...............................................................................................iv
TABLE OF CONTENTS ...............................................................................................v
LIST OF TABLES .......................................................................................................vii
LIST OF FIGURES ....................................................................................................viii

CHAPTER
I. INTRODUCTION .................................................................................................1

Overview ..................................................................................................................1
Hypothesis ...............................................................................................................1
Rationale ...............................................................................................................1

II. LITERATURE REVIEW ......................................................................................4

The Importance of Social Skills ...........................................................................4
Interventions .........................................................................................................7
Environment Satisfaction and Social Skills .........................................................11
Summary ...............................................................................................................11
Gaps in the Literature ..........................................................................................12
Rationale for Using Social Skills Training with Intellectually Disabled ..............12

III. METHODOLOGY ...........................................................................................14

Participants ..........................................................................................................14
Design ..................................................................................................................16
Setting/Apparatus .................................................................................................17
Measures .............................................................................................................18
Procedures ............................................................................................................19

IV. RESULTS ........................................................................................................22

Statistical Analyses ...............................................................................................22
Visual Analysis .....................................................................................................26

V. DISCUSSION .....................................................................................................28

Program Changes .................................................................................................29
Strengths and Limitations ....................................................................................30
Multilevel Challenges ........................................................................................31
  Client Level ........................................................................................................31
  Program Level ...................................................................................................31
  Organizational Level ........................................................................................31
  Societal Level ....................................................................................................32
Contribution to the Behavioural Psychology Field ........................................32
Recommendations for Future Research ...................................................32

REFERENCES .........................................................................................33

APPENDICES
Appendix A: Examples of Functional Assessments Used ....................36
Appendix B: Consent Form .................................................................37
Appendix C: Environmental Satisfaction Questionnaire .......................40
Appendix D: Event Recording Chart for Recording Frequency of Daily ..... Appropriate Social Interactions .........................................................52
Appendix E: Mediator Instructions for Intervention Procedures .................53
Appendix F: Table of Data for Frequency of Daily Appropriate Social Interactions During Baseline ......................................................55
Appendix G: Table of Data for Frequency of Daily Appropriate Social Interactions During Intervention ......................................................56
Appendix H: Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant A .........................................................58
Appendix I: Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant B .........................................................59
LIST OF TABLES

Table 1. Recording of Daily Frequency of Appropriate Social Skills ........22
LIST OF FIGURES

Figure 1. Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant A .........................................................23
Figure 2. Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant B .........................................................24
Chapter I: Introduction

Overview

It is important for those who are living together to get along and build a close relationship where they are able to learn things from each other and have a social support network (Halford, et al., 2010). In addition, it is beneficial for people living in a group environment to have appropriate group living and social skills in order for them to have a reasonable level of satisfaction with their home environment (Hallberg, Ringdah, Holmes & Carver, 2005). Additionally, individuals who utilize appropriate social skills have a greater general acceptance among the community (Hibbard, 2010).

Hypothesis

It was hypothesized that a combination of social skills training and reinforcement would increase social skills, which was defined as sharing and taking turns, in two elderly individuals with intellectual delays. It was further hypothesized that the experience of being able to work cooperatively with each other and being reinforced for doing so appropriately would consequently increase the participants’ environment satisfaction.

Rationale

The purpose of this study was to determine if interpersonal skills, such as sharing and turn taking, could be increased as well as environment satisfaction, using a social skills training procedure and reinforcement of appropriate behaviour with two elderly roommates with intellectual delays. Additionally, the purpose of the study was to determine if individuals who have intellectual delays can benefit from this type of program, and if this program can potentially be utilized with other individuals in the client population to improve their environmental satisfaction.
The agency responsible for both participants felt it was critical that turn taking and sharing behaviours be increased and the participants learn ways to get along during specified activities, such as reading the newspaper, entering the elevator, and washing their laundry, so that conflicts could be minimized. It was hoped that a reduction in conflict would result in the participants having improved satisfaction with their group home environment. The agency indicated that without the appropriate social skills the participants would continue to be in conflict, and to be unsatisfied with their living situation, which could result in injury and emotional distress in the future.

The goals and objectives of this study were to increase both participants’ frequency of appropriate social skills, totalling three appropriate interactions per day or twelve appropriate social interactions per week, during specific shared activities, Monday through Thursday from 6:00pm until 7:00pm. The objective was said to be occurring when each participant surpassed all objectives for more than three consecutive days

This study examined the effectiveness of a social skills training program on increasing interpersonal skills in two individuals with intellectual delays. The following section will describe the behavioural interventions that are used to increase social skills in individuals who have intellectual and developmental disabilities. The appropriateness and the effectiveness of such interventions will be discussed. Additionally, a variety of studies examining the connection between social skills and environmental satisfaction will be examined. Further sections will describe the method used during the implementation of this study, followed by a description of the results and finally, a discussion. The discussion will provide details about the impacts the results had on the participants, the intervention itself, and the agency. Additionally, the changes that were made to the intervention as well as the strengths and limitations of the intervention will
be discussed. Multilevel challenges that were faced on a client, program, organizational and societal level while implementing the intervention will be discussed in detail. Additionally, the contributions this study has made to the behavioural psychology field will be discussed. Finally, recommendations for future research will also be addressed.
Chapter II: Literature Review

The Importance of Social Skills

Beauchamp and Anderson (2010) state that much information is still needed to fully understand the development and maintenance of social skills across the human life span. It has been found that individuals with developmental disabilities seem to have a need for increased social skills (Beauchamp & Anderson, 2010). The social domain is very important as social skills and interactions are critical for an individual to develop lasting relationships, as well as function and participate in the community. Social isolation, psychological distress, reduced levels of self-esteem and impacts on quality of life and environment satisfaction are found in individuals who do not exhibit appropriate social skills (Beauchamp & Anderson, 2010). According to Beauchamp and Anderson (2010), clinical practice and research has found that development of social skills is beneficial to those with developmental and intellectual disabilities, as deficits in social skills can cause restrictions in social participation, and therefore hinder an individual in their life. Helping individuals with intellectual disabilities gain social skills and learn about working collaboratively with other individuals during activities and in other social situations to improve cooperative communication and collaborative action is very important as it plays a role in increasing levels of quality of life (Beauchamp & Anderson, 2010). Additionally, Ditterline and Oakland (2009) proposed that elderly individuals with intellectual disabilities living in assisted living environments can also benefit from programs that help aid their social skills in activities.

The study of the importance of social skills in individuals with learning and developmental disabilities has been steadily increasing in the literature (Soresi & Nota, 2000). According to Soresi and Nota (2000), low social skills are generally associated with individuals
with developmental disabilities from childhood to adulthood. Individuals with intellectual disabilities are often found to have poor social interactions with other people (Soresi & Nota, 2000). Individuals who have difficulty when it comes to establishing and maintaining relationships with others experience a decrease in social experiences, which can have negative effects on adult life such as causing them to have a low life satisfaction. Such social skill deficits include lack of following instructions, cooperation, and having positive relationships. In individuals who live in residential services, it is important to gain relationships with others with disabilities as well as people without disabilities and respond appropriately in social situations to develop a social support network and complete tasks with others. Social skills training is a good way to maintain and generalize social skills with people who have moderate to severe disabilities (Soresi & Nota, 2000).

An absence of appropriate social skills or a social network can be considered as a problem. It has been shown that people who face this problem may have a low quality of life and can have difficulties in their daily life activities such as being out in the community (Hallberg, Ringdah, Holmes & Carver, 2005; Hibbard, 2010). Adaptive behaviour is a term coined to define one’s ability to respond to the needs of others and meet daily living responsibilities (Ditterline & Oakland, 2009). This includes conceptual skills, practical skills, and social skills that people need to function in their everyday lives. Significant deficits in functioning in these adaptive behaviours, such as social skills, have commonly been associated with individuals with intellectual and developmental disabilities (Ditterline & Oakland, 2009; Mueser & Bellack, 2007). According to Ditterline and Oakland (2009), these social skill deficits can impair an individual’s daily functioning and lower their level of satisfaction and quality of life. Increased
social skills can help elderly individuals with intellectual disabilities to effectively function in their daily lives (Ditterline & Oakland, 2009).

According to Hibbard (2010), if individuals with intellectual disabilities were taught more appropriate social skills it would assist their integration into the community and promote better relationships and acceptance among the community. Johnson, Douglas, Bigby and Iacono (2010) observed an adult with a severe intellectual disability in her daily environments. Her social network was interviewed and it was determined that for individuals with severe intellectual disabilities social interactions are challenging, although meaningful. It is important for such individuals to receive aid in increasing their social interactions, and their skills to have such interactions and extend their social networks. Johnson, Douglas, Bigby and Iacono (2010) brought to light that not only is it difficult for individuals with intellectual disabilities to understand appropriate social interactions but there may also be associated difficulties, such as limited speech.

Johnson, Douglas, Bigby and Iacono (2010) also proposed that it is important for such individuals to make relationships and work collaboratively with people besides staff members that may be present in a residential service agency. Often there are high turnover rates of staff that work at these types of locations. If individuals with intellectual disabilities have their support network limited to family and staff members, when staff members leave the individual loses a large portion of their network (Johnson, Douglas, Bigby & Iacono, 2010). If individuals are well equipped with appropriate social skills to aid in collaborative living, then the individuals can potentially make and maintain relationships with other individuals and have a high level of satisfaction even with the turnover rates of paid staff (Johnson, Douglas, Bigby & Iacono, 2010).
A proposed method for training individuals with intellectual disabilities how to utilize appropriate social skills is a social skills training program (Beauchamp & Anderson, 2010).

**Interventions**

There is ample research that proposes that a social skills training program is a beneficial intervention to aid individuals with and without intellectual or developmental disabilities (Beauchamp & Anderson, 2010). Social skills training has been found to be effective in treating various age groups from children to elderly, and has been deemed one of the most effective ways to increase an individual’s social skills (Hibbard, 2010). Social skills training has been studied and deemed an effective intervention for over 40 years (Mueser & Bellack, 2007).

There are a number of interventions used for individuals with intellectual delays who have deficits in social skills (Casas, 2009). Cognitive behavioural therapy (Sturmey, 2004), controlling contingencies (Leblanc, Hagopian & Maglieri, 2000), multi-component treatments and social skills training (Mueser & Bellack, 2007; Vaccaro, 1990; Halford, et al., 2010; Castles & Glass, 1986; Soresi & Nota, 2000 & Casas, 2009) are just some of the interventions used to help individuals with disabilities that lack in appropriate social skills sets (Casas, 2009). In the present study, social skills training seems to be the best suited intervention for the participants, as well as the group home agency that the participants are associated with.

Hibbard (2010) focused on developing educating programs that help individuals to develop and maintain appropriate social skill behaviours and deemed social skills training to be an effective way to do so. Social skills that include both verbal and non-verbal communication can be trained through social skills training and can be more effective than passive interventions (Hibbard, 2010). Hibbard (2010) conducted a study that involved 72 participants that had mild intellectual disabilities. These participants participated in social skills training that involved
training in didactic control, problem solving, and behavioural rehearsal. The interventions were effective in increasing the clients’ social skills and taught the clients valuable skills in verbal and non-verbal communication (Hibbard, 2010).

Social skills training procedures involve systematically training interpersonal skills by breaking the complex social behaviours down and demonstrating or modeling the skills. Social skills training also involves getting clients to participate in role plays that utilize the skills being taught and providing correction and feedback of these skills to develop practice of the skills being utilized in natural environments and interactions in the client’s life (Mueser & Bellack, 2007). Social skills training programs are often referred to as assertiveness training and can be applied to a range of individuals including individuals who have severe intellectual disabilities (Mueser & Bellack, 2007). According to Mueser and Bellack (2007), social skills training is a promising intervention to utilize as it has little to no negative impact on clients and promotes social relationships and social functioning in day-to-day life situations. Mueser and Bellack (2007) propose that there is a need for social skills training to be incorporated into clinical situations with individuals who have severe intellectual disabilities. It is also proposed that there is a need for the programs to be easily accessible to individuals that need a beneficial program such as social skills training as it is currently found to be the most potent intervention for social integration not only personally but into the community and helps individuals develop meaningful relationships with the skills taught (Mueser & Bellack, 2007). Mueser and Bellack (2007) propose that there is an abundance of evidence that suggests that people with severe intellectual disabilities can learn and maintain social skills over time and social skills training programs are an effective approach for promoting such skills in the client population. Limited communication skills and small social networks may cause isolation in people with severe intellectual disabilities
(Johnson, Douglas, Bigby & Iacono, 2010). It has been proposed that social skills training and reinforcement interventions can effectively increase the level of interpersonal skills an individual has and help the individual to maintain a relationship with another person (Vaccaro, 1990; Halford, et al., 2010). Halford et al. (2010) noted that social skills training and feedback is an effective method for teaching essential interpersonal skills and building relationships.

Castles and Glass (1986) discovered that social skills training programs are effective in treating individuals who have moderate to mild intellectual disabilities with a social skill deficit. Castles and Glass (1986) conducted an empirical study to demonstrate the effectiveness of social skills training, internal problem solving training, and a combination of the two treatments. The goal was to improve the social competence of 33 mildly to moderately intellectually disabled adults. The authors concluded that participants improved on the role played tests of the observed social skills and the subjects improved their problem solving skills during intervention. Additionally it was found that the participants increased their ratings of personal social responsibility after receiving the training in interpersonal problem solving (Castles & Glass, 1986). Castles and Glass (1986) discovered that generalization strategies should also be included in the training to promote a higher level of generalization.

Soresi and Nota (2000) conducted a social skills training program to teach social skills and abilities to a group of 20 individuals with Down’s syndrome. The intention of the program was to increase the abilities of these individuals to enact positive relations with peers and authority figures, and generalize these learned skills. Soresi and Nota’s (2000) program was developed to utilize verbal and nonverbal behaviours using instructional techniques consisting of instructions, modeling, role play, informational feedback, positive reinforcement, and repetition. These techniques were used to demonstrate the importance of appropriate social skills,
demonstrate how to utilize the skills, and reinforce an increase of frequency of these skills being
demonstrated. Direct observation, questionnaires and evaluation of frequency of positive and
negative social behaviours measured pre and post intervention demonstrated that the social skills
training program was effective at improving social skills and the frequency and quality of social
behaviours in people who have Down’s syndrome (Soresi & Nota, 2000).

Vaccaro (1990) conducted a study which included elderly individuals with intellectual
deficits displaying inappropriate social behaviour. Vaccaro (1990) used an ABAB design to
evaluate the effects of social skills training on increasing appropriate social skills. The author
concluded that a social skills training procedure that involved instructions, modeling, role
playing, feedback, and verbal reinforcement was an effective way to increase favourable social
behaviour and decrease aggressive behaviour towards others. It was thought that a modified
social skills training intervention tailored to the needs of the participants could be utilized to
increase the participants’ appropriate social skills and to increase their environment satisfaction.

Casas (2009) developed and evaluated a social skills training program to increase anger
management techniques in young men with intellectual and developmental disabilities in a
community-based residential program. Casas (2009) taught rationales for the skills, modeling
and practicing the skills with the use of role play. Additionally Casas (2009) used a chaining
procedure to aid in teaching each skill and the intervention proved to be successful for three
participants. Casas (2009) utilized a behavioural questionnaire and interviews to determine the
effectiveness of the social skills intervention on the adults involved in the study, which was said
to be an effective way of measuring outcome. Additionally, the results were proposed to be an
accurate representation of the participants’ progress (Casas, 2009).
Environment Satisfaction and Social Skills

It has been proposed that it is important for an individual to be satisfied with their environment and have a sense of personal well-being throughout life (Hallberg, Ringdah, Holmes & Carver, 2005). In order to accomplish environment satisfaction and have a sense of personal well-being throughout life a social support network is essential (Hallberg, Ringdah, Holmes & Carver, 2005). According to Dassopoulos and Monnat (2011), an individual’s perception of group collaboration and cohesion is highly correlated with their level of environment satisfaction.

Similarly, Gambrill (2004) proposed that an individual’s satisfaction in work environments is highly impacted by their social skills or lack thereof. Many environments require social interactions and if an individual has a social skill deficit they can become unhappy and stressed. According to Gambrill (2004) social skills training can not only increase individual’s social skills but also their satisfaction in their environment and foster positive relationships. As stated by Mueser and Bellack (2007) “Interpersonal relationships are an important dimension of quality of life” which is significantly impacted by an individuals’ satisfaction with their environment.

Summary

Research has demonstrated that it is common for elderly individuals with intellectual delays to have low levels of interpersonal skills and lack the appropriate social skills needed to ensure that they have meaningful relationships (Halford, et al., 2010). Individuals who lack interpersonal skills, have a low level of social support and are unable to communicate effectively with those around them also have lower levels of environment and life satisfaction (Miller & Chan, 2008). Miller and Chan (2008) concluded that for individuals with intellectual disabilities,
quality of life is higher if the individual has a network of socially supportive individuals around them, such as staff, family, and friends. In addition, individuals tend to have a higher level of life satisfaction when they have the necessary skills to acquire and maintain meaningful interactions with others (Miller & Chan, 2008).

**Gaps in the Literature**

Although there is literature to support that social skills training is an effective way to teach people with intellectual disabilities appropriate social skills and that social skills are essential to aid people in their environment satisfaction and quality of life, there is limited research involving the client population that the present study focused on. There is literature indicating a need for elderly individuals to have appropriate social interactions and a higher level of environment satisfaction, however, social skills training procedures with elderly individuals living in group home with intellectual delays and social skill deficits has not been studied. The research reviewed suggests that social skills training could be effective with this population. There seems to be gaps in the literature surrounding measures to analyze an individual’s satisfaction with their environment, thus the environmental satisfaction questionnaire was created for the present study to be conducted.

**Rationale for Using Social Skills Training with Intellectually Disabled Populations**

The literature review suggests that there is an important link between social skills and environment satisfaction in adult individuals with and without intellectual and developmental disabilities. Social skills training is an effective way to achieve the goal of increased skill development and environment satisfaction in adults with intellectual disabilities living in community based residential services with other people.
In the present study, there seemed to be a relationship between environment satisfaction in individuals with intellectual disabilities and their level of social skills and social network. An increased level of social skills abilities may provide individuals with the skills and knowledge needed to develop and maintain relationships, and thus have a greater satisfaction with their home environment. In the present study, it was hoped that a social skills training program would allow the participants to work more effectively together in their day-to-day activities. It was also hoped that the elderly roommates would build a closer relationship and ultimately become more satisfied with their home environment.
Chapter III: Methodology

Participants

The participants of the study included Participant A, a 50 year old deaf and mute man who communicated with limited sign language. Participant A had been diagnosed with cerebral palsy. Cerebral palsy was defined as a condition that affects motor ability and causes abnormalities in movement and control of limb function. It was thought to be caused by a non-progressive brain lesion in utero. There were various degrees of cerebral palsy ranging from nearly unnoticeable impairment of the limbs to the individual being forced to use a wheel chair (MedicineNet.com, 2011). In the case of Participant A, he was able to walk well enough to be able to support himself, although he needs some assistance when walking on uneven ground or up stairs. Additionally, Participant A had been diagnosed with mild to severe intellectual delays.

The above participant’s roommate, Participant B, was a 50 year old woman diagnosed with Down’s syndrome. Down's syndrome was defined as a genetic disorder that is the leading cause of cognitive impairment and is associated with mild to moderate learning disabilities (Heyn, n.d.). Additionally, it caused developmental delays and physical abnormalities with facial and body appearance (Heyn, n.d.). Participant B had moderate cognitive impairment. Participant B did not have any physical limitations. Both participants were single and never married. Both participants did not see their family, although Participant B talked to her mother on the phone once a week.

Both participants were unemployed, although they went to day programs from 9:00 a.m. to 3:00 p.m., Monday through Friday. After 3:00 p.m., both participants were picked up and brought back to their apartment, where they completed their chores and relax until bed time. Both participants were found through a functional assessment to be lacking sharing and turn
taking skills (Appendix A). The residential program staff where both participants lived indicated a need to improve their appropriate group living skills, their appropriate social skills, and reduce or eliminate bullying behaviour towards each other and others. Both participants had behavioural support plans put in place to deal with their aggressive and bullying behavior, which entailed redirection and instruction to ignore the behaviour.

The participants were not ideal roommates, as they did not get along, although due to each participant’s need for full-time supervision they were placed together based on their level of care required. Improving essential appropriate social skills and group living skills, which would hopefully in turn increase their level of environment satisfaction and make for a better roommate relationship was considered an important goal by the agency. The inclusion criteria for the study was documentation indicating that both clients were in need of improving their appropriate group living skills and were lacking in appropriate social skills.

The participants were required to give written consent before participating in the study. The participants were informed of the potential risks and the benefits of participation in this study prior to giving consent. The consent forms included an area for the participant to sign, a staff member that is responsible for the participants' care, as well as a witness (see Appendix B). In the case of the Participant A, a staff member who was well versed in sign language explained the information in the consent form and ensured that the information was well understood prior to him signing the form. For Participant B, a staff member read the consent form to her, and also ensured that she was well informed prior to allowing her sign the form. The participants were considered to be competent to consent and a substitute decision maker was not used as the participants were considered competent to sign documents and the agency that cared for them consented. Both participants involved in the research study were informed that they were able to
refuse participation or withdraw from the research study at any time during the study with no penalty or consequence, and that if requested by the participant all their data would be destroyed. The consent form and explanations of the study were at the intellectual level of the participants. See Appendix B for a copy of the consent form used. This project was approved by the Research Ethics Board at St. Lawrence College.

**Design**

The study consisted of an AB research design. Successive approximations of behavioural consequences (ABC’s) were used to determine the antecedents and consequences of the target behaviours (see Appendix A). Baseline was recorded, and then the social skills training intervention was implemented.

The data was analyzed using a visual analysis which consisted of graphing, including a mean line to and a PND line to visually represent and analyze the collected data. Quantitative data was collected from the pre and post environment satisfaction questionnaires to determine if there was an improvement in the clients' environmental satisfaction post-intervention.

The following are operational definitions of the behaviours that were targeted in this study:

*Turn Taking (Accelerate)* – The target behaviour was said to be occurring if during non-session recording times a participant allows another participant to take their rightful turn, or if a participant offered another participant to go ahead or use something first, such as going in the elevator first, or use the closest washing machine. Exception: When participants were prompted by a staff member to take turns or share, as the purpose of the recording was to see if the participants’ social skills had increased in their natural environment.
Sharing (Accelerate) – The target behaviour was said to be occurring if during non-session recording times one of the participants gave a portion of something or distributed something, such as part of the newspaper to another participant. Exception: When participants were prompted by a staff member to take turns or share, as the purpose of the recording was to see if the participants’ social skills had increased in their natural environment.

Rationale: Increasing both participants sharing and turn taking behaviour, was considered important by the residential program because their maladaptive behaviours were becoming a concern for the both participants' safety, as well as their satisfaction with their home environments. It was critical that turn taking and sharing behaviours were increased and the participants learned ways to get along during specified activities, such as reading the newspaper, entering the elevator and washing their laundry, so that conflicts were minimized and, hopefully, they could derive more satisfaction in their group home environment. It was believed that without the appropriate social skills the participants would continue to have conflicts and be unhappy with their living situation, which could have resulted in injury and emotional distress.

Setting/Apparatus

The project took place in the home of the clients. The two participants lived in an apartment that was used as a group home facility. The study was conducted throughout all areas of common space throughout the apartment. The group home facility consisted of the two participants, one staff member and the student researcher. The materials needed to conduct this study included a pen to complete the questionnaire, newspapers, an elevator, laundry, and a laundry room.
Measures

Data was collected using a frequency recording chart to analyze the frequency of appropriate social interactions being displayed during sessions (Appendix D). The data was collected between training sessions to allow for observation of the participants naturally utilizing the appropriate social skills that were trained. This method was chosen as it was thought that they would provide the most accurate representation of frequency of sharing and turn taking as well as self-reported environment satisfaction.

Additionally, data was collected using the attached pre-tested questionnaire (Appendix C) specifically designed to assess the participant’s environment satisfaction. In order for the participants to be able to understand and utilize the questionnaire effectively, the questionnaire was designed using pictures, as the participants were illiterate. This questionnaire was administered both pre and post intervention.

The questionnaire was scored using the scoring instructions included with the questionnaire to determine the individual’s current level of environment satisfaction. The scoring was as follows; if a participant scored 0-19 the participant was said to have very low environment satisfaction and the participant is said to be very unsatisfied with their environment and living situation. If a participant scored 20-29 then they were said to have low environment satisfaction as the participant would be said to be unsatisfied with their environment. If a participant scored 30-39 on the environmental satisfaction questionnaire then they were said to have average environment satisfaction as the participant had an average environment satisfaction, they were said to be not happy with their situation, but it was not likely causing emotional harm either. Lastly, if a participant received a score of 40-50 then they were said to have high environment satisfaction as the participant was very satisfied with their
environment and living situation, activities and relationships in the home were said to be very satisfying.

The scoring was created by distinguishing which categories in which the participant completing the questionnaire would fall into based on the answers they gave to the questions. The 0-19 category was calculated by determining what approximate scores the participant would acquire if the participant answers the validity questions with four or five and answers the rest of the questions with zero or one. In this case, the participant would have a score less than 19. Participants’ that answered the validity questions with a four or a five and most of the other questions with a three or even a four would have a score closer to the average environmental satisfaction. Thus, if the participant answered most of the actual assessing questions with a four or five they would be considered to have high to full satisfaction with their environment. The data collected consisted of questions that addressed the individuals' satisfaction with their home environment, participant-peer relationships, and roommate relationship.

Procedures

The project implementation procedures consisted of a modified social skills training procedure described by Vaccaro (1990), to increase appropriate social interactions. It was important for the intervention to be modified to fit the needs of the participants. The intervention consisted of giving instructions to the participants about the activities that they were to work on together, such as looking through the newspaper, riding in the elevator, or doing laundry. Giving instructions took approximately 3 minutes. Verbal and gestural reinforcement was given by saying “good job sharing” or “good job taking turns” and a “thumbs up” was given. The reinforcement was given to the participants on a FR1 schedule, and thus the participants were reinforced every time they engaged in the target behaviours. Reinforcement was faded and
participants were reinforced on a VR2 schedule once the participants were demonstrating three instances of appropriate social skills per day, therefore, every other time the target behaviours occur the participants received reinforcement.

It was ideal that the intervention be continued after the researcher had left to ensure that both participants’ appropriate social interactions were maintained. The staff was educated on how to continue the intervention. Staff members were provided with a copy of the intervention to use as a reference. The full time staff were involved throughout the entire intervention process, and were well aware of the intervention procedures before the counsellor’s departure.

Demonstrations were used to ensure that the intervention was being implemented correctly and the staff were both observed performing the intervention and provided with constructive feedback. The instructions were as follows: the importance of working together collaboratively by sharing and taking turns should be briefly explained to each participant. Staff members were to do a brief demonstration of the activity to model appropriate interactions with others. Sharing was modeled by splitting the newspaper in half, each participant got a half of the newspaper for approximately ten minutes and then the participants would switch their half of the newspaper with the other participant. Taking turns was demonstrated by the staff modeling taking their rightful turn entering the elevator or using the closest washing machine while doing laundry. During the modeling phase the modeling was stopped to explain to the participants whether what is occurring in the modeling scene is appropriate behaviour or not. The scenarios consisted of looking through the newspaper, riding in the elevator appropriately, and taking turns while doing laundry. This was done both verbally and in sign language. Next, the participants were instructed to complete the tasks together and repeat what they have just watched in the modeling scene, display appropriate social skills, and work collaboratively. The participants received feedback
and were given reinforcement for displaying the target behaviours. Each session included the above criteria. Each session lasted approximately 30 minutes; sessions were completed one to two times per week for five weeks. See Appendix E for mediator instructions.
Chapter IV: Results

Statistical Analysis

As can be seen from Table 1, and Figures 1 and 2, the intervention procedures implemented across 17 days were effective in increasing both participants’ appropriate social skills.

Table 1.

<table>
<thead>
<tr>
<th></th>
<th>Participant A</th>
<th></th>
<th>Participant B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Intervention</td>
<td>Baseline</td>
<td>Intervention</td>
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<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Mode</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.33</td>
<td>1.68</td>
<td>0.48</td>
<td>1.54</td>
</tr>
</tbody>
</table>
Figure 1. Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant A
Figure 2. Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant B
During baseline, Participant A’s highest number of appropriate social interactions in a day was one, and the lowest was zero. The mode was zero (see Table 1). Participant A’s total frequency of appropriate social interactions during baseline was two, with an average of 0 to 0.25% per week. Overall, Participant A had an average of 0.13 (13%) appropriate interactions during baseline. Figure 1 presents a graph of the frequency of appropriate social interactions during baseline and treatment.

Participant B’s highest number of appropriate social interactions in a day was one, and the lowest was zero, with a mode of zero (as represented above in table 1.) Participant B’s total number of appropriate social interactions during baseline was three, with an average of 0.25 to 0.50% per week. Overall, Participant B had an average of 0.38 (38%) appropriate interactions during baseline. Appendix I presents a graph of the frequency of appropriate social interactions in baseline and treatment with mean and trend lines.

With respect to the frequency of appropriate social interactions, the data indicated that during intervention the highest frequency of appropriate social interactions for participant A in a day was five, and the lowest was zero. In regards to highest frequency in a day, Participant A had an increase of 400% from baseline. The mode was two (see Table 1). Participant A’s total frequency of appropriate social interactions during intervention was 42, with an average of 0.75 to 4.7 per week. Overall, Participant A had an average of 2.47 (234% increase from baseline) appropriate interactions during intervention. The data indicated that Participant B’s highest number of appropriate social interactions during intervention in a day was five, and the lowest was zero. With regards to highest frequency in a day, Participant B had an increase of 150% from baseline. The mode was two (see Table 1). Participant B’s total number of appropriate social interactions during intervention was 44, with an average of 1.5 to 4 per week. Overall,
Participant B had an average of 2.59 (221% increase from baseline) appropriate interactions during intervention. (See appendix G)

**Environment Satisfaction Questionnaire**

Prior to treatment, Participant A scored 17 out of 50 (34%) and Participant B scored 18 out of 50 (36%) on the environment satisfaction questionnaire. Both Participant A and B’s results prior to treatment suggested that both Participant A and B had low environment satisfaction, as their scores were under a score of 19 out of 50, which represented that the participants were very unsatisfied with their environment and living situation. On December 4th, 2011, the questionnaire was administered post treatment. Participant A had an environment satisfaction score of 30 out 50 (60%), which is an increase of 76%. Participant A’s score represents an average environment satisfaction, as the score was between 30 and 39. This means that according to the environmental satisfaction questionnaire the participant is happy with their living situation. Participant B scored 42 out of 50 (84%) on the scale, which is an increase of 133%. This represents a high environment satisfaction. The client is very satisfied with their environment, living situation, activities and relationships in the home are very satisfying. See appendix C for scoring of the Environment Satisfaction Questionnaire.

Participant A and B attained all of the specified goals and objectives for both target behaviours, as they surpassed all objectives for more than three consecutive days.

**Visual Analysis**

The data was analyzed using a visual analysis which consisted of two graphs, including a trend line, mean line and a PND line (appendix H & I).
The trend line on graphs for both Participant A (appendix H) and Participant B (appendix I) visually demonstrate that the intervention had an increasing trend, as during intervention there was an increase in the frequency of appropriate social skills for both participants.

Percentage of nonoverlapping data (PND) is a statistical measure to determine the effectiveness of an intervention, by examining the data points on a graph. PND compares the data points during intervention to the highest/lowest data point in the baseline data, depending on whether the goal of the intervention was to increase or decrease the target behaviour. Measuring PND involves drawing a line through the highest or lowest baseline data point parallel to the X-axis and through the intervention phase. The PND is determined by calculating the number of points during the intervention phase that fall above/below the highest/lowest baseline data points and then dividing by the total amount of intervention data points, multiplied by 100 (Scruggs, Mastropieri & Casto, 1987). According to Scruggs and Mastropieri (1998) there are cut off scores that categories the effectiveness of the interventions. A PND score over 90% is considered to be very effective. If an intervention has a PND score between 70% and 90% the intervention is considered effective. If an intervention is found to have a score between 50% and 70% is considered questionable, while a score below 50% is regarded as ineffective (Scruggs & Mastropieri, 1998). The PND for frequency of appropriate social interactions was 71% for Participant A. The PND for frequency of appropriate social interactions was 76% for Participant B (See Appendix G and displayed in Appendix H and I.) Therefore, the PND scores for both participants in this study is between 70% and 90% which means that the present study could be considered an effective intervention.
Chapter V: Conclusion/Discussion

Increasing the social skills of individuals living in a group home facility is essential to ensuring that clients are able to get along and build relationships with their peers. Having a high level of environment satisfaction is beneficial to ensuring that a high level of life satisfaction is achieved. The present study compared two participants’ frequency of use of appropriate interpersonal skills and each participant’s self-reported level of environment satisfaction following a social skills intervention.

Particular challenges which have been taken into account during the developing of this proposal consist of the language barriers between participants, as well as the participants' illiteracy. Language barriers between participants consisted of, Participant A only being able to communicate with limited sign language, and Participant B only being able to communicate through verbal interactions and did not know how to communicate with sign language. Additionally, clients were unable to communicate through writing notes to each other as both participants were unable to read and were unable to write.

The intervention of social skills training to increase interpersonal skills and environment satisfaction in elderly roommates with intellectual delays was demonstrated to be effective. Effectiveness of the program was demonstrated by the PND of each participant. The PND for frequency of appropriate social interactions was 71% for Participant A. The PND for frequency of appropriate social interactions was 76% for Participant B. Additionally, each participant's environmental satisfaction increased significantly from low satisfaction to average satisfaction for Participant A and low satisfaction to high satisfaction for Participant B.

The results of the present study provide insight into a variety of dimensions; the participants, the intervention itself, and the agency. As for the participants in the study, the
results supported that the participants experienced improved social skills, demonstrated through sharing and turn taking. Additionally, the results of the study suggested that both the participants felt a higher degree of satisfaction with their home environment. As for the intervention itself, the results support that the intervention can be effective and beneficial to the population included in the study. Also, the positive results suggest that the intervention was well structured and was conducted appropriately. The results of the present study impacted the agency in which it was conducted in that staff did not have to constantly separate the participants due to disagreements, which allowed or more time spent on other tasks. Further the intervention helped the agency promote improved quality of life for their clients.

Results of this study were in line with the literature reviewed. Similar to prior research the present study supports the intervention procedure effectiveness but also addressed some of the identified gaps in the literature relevant to this client population and specifically measures for examining environment satisfaction.

In summary, the intervention helped both clients to work more effectively together to complete daily tasks, such as riding the elevator, reading the newspaper, and washing their laundry. Both clients increased their use of appropriate social interactions and began building a friendly relationship together. Both clients self-reported an increased level of satisfaction in their home environment and living situation.

**Program Changes**

The intervention was modified slightly due to the atmosphere of the agency and the availability of other staff. Rather than the intervention being done with modelling by two staff members, the modelling was done by a staff modelling with each participant, giving feedback during this time to the participants, and then getting the participants to do the activity afterwards.
while receiving additional feedback and reinforcement. This was found to be more beneficial, as once the researcher left the staff are single staffed, and would be unable to continue the intervention if the intervention entailed two staff members modelling.

**Strengths and Limitations**

Strengths of the program are in the simplicity of the method, as the intervention was easily administered by one staff member and allowed the staff to work closely with the participants. An additional strength of this program was that it was easy for the agency to maintain the intervention after the end of the study, as the intervention itself was quite simple. The intervention also allowed the participants and the facilitators to build relationships as they worked closely together during the intervention procedures. Another strength of this study was that it was conducted in the participants natural environment, possibly contributing to the favourable results.

Areas of the program that could have been improved would be the use of two staff members modeling, as originally planned. It would have been interesting to see if there was a greater increase in appropriate social skills if the intervention was implemented using two models interacting. Additionally, it may have been beneficial to have a more detailed operational definition of modeling, turn taking, and sharing. A small sample size was also a limitation of this study, as there were only two participants. Another limitation of this study was the limited activities that the study examined, as it would have been beneficial to the participants and the agency for the participants to have experience in utilizing appropriate social skills across a variety of settings. Similarly, the participant’s generalization of situations in which to use appropriate social skills was limited.
Multilevel Challenges

There are many challenges when working with clients who have intellectual delays, as well as working in a program that already has behavioural support plans being implemented, including challenges at the client level, the program level, the organizational level, and the societal level.

Client Level

Working with clients who have various intellectual disabilities and language barriers can be challenging. It can initially be frustrating when a client does not understand what you are asking of them or they are not compliant with the requests given, although after some time we were able to communicate effectively with sign language, and this challenge was addressed.

Program Level

Working in an agency with rigid guidelines about scheduling and expectations of both the clients and the staff, can be helpful when working with clients and their routines. However, sometimes staff do not follow the guidelines set in place and there are greater challenges. As an example, one client at the agency is scheduled for bed at 10:00pm. If, on the weekend, staff allow the client to go to bed at an earlier time, such as 7:00pm, then during the week it is much more difficult for staff to keep the client up until the appropriate bed time.

Organizational Level

With the amount of time clients spend out in the community and the task demands already set in place for them, it can sometimes be difficult to implement programs or meet set goals because the clients are busy with other activities.
Societal Level

On a societal level, there are challenges when working with clients with intellectual delays. It is expected by the agency that the clients are to be taken out into the community regularly to complete everyday tasks. Many people in the community do not appreciate the support and needs of people with intellectual delays. For example, if a client is walking slowly, or takes a long time to get on the bus and sit down, people in the community become impatient and frustrated.

Contribution to the Behavioural Psychology Field

In terms of the practical application of this study in the Behavioural Psychology field, it demonstrated that social skills training can be used to promote collaborative group living among clients with intellectual disabilities, but also demonstrated the effectiveness of social skills training on increasing social skills in an individual who is both deaf and mute. Additionally, this study further contributed to the body of literature supporting the effectiveness of social skills training with populations with intellectual and developmental delays.

Recommendations for Future Research

It is recommended that future research could assess whether the increase in appropriate social interactions with elderly clients with intellectual deficits would generalize to other situations, such as watching television together appropriately and eating dinner together appropriately, as this program did not cover those areas.
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aggressive elderly subjects. *Psychology and Aging, 5*(3), 369-378. doi:10.1037/0882-
7974.5.3.369
## Appendix A: Examples of Functional Assessments Used

<table>
<thead>
<tr>
<th>Time</th>
<th>Evening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>Hallway/ Elevator</td>
</tr>
<tr>
<td>Who is present</td>
<td>Staff, myself, participant A and B</td>
</tr>
<tr>
<td>Mood</td>
<td>Prior to leaving the apartment both participants were relaxed. During situation Participant A is angry and Participant B is sad.</td>
</tr>
<tr>
<td>Situation</td>
<td>Participants A and B collect their dirty clothes and prepare to go to the laundry room to wash their clothes. Leaving their apartment and heading to the elevator participant B heads towards the elevator and participant A races to catch up. They begin pushing and yelling at each other.</td>
</tr>
<tr>
<td>Behaviours</td>
<td>Pushing, participant A biting finger and yelling, participant B yelling, whining and turning around</td>
</tr>
<tr>
<td>Consequences</td>
<td>Both participants are told to stop and are redirected</td>
</tr>
<tr>
<td>Skills needed</td>
<td>Turn Taking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Evening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>Laundry Room</td>
</tr>
<tr>
<td>Who is present</td>
<td>Staff, myself, participant A and B, apartment neighbours</td>
</tr>
<tr>
<td>Mood</td>
<td>Both participants are upset upon entering the room, due to disagreements on the way to the laundry room</td>
</tr>
<tr>
<td>Situation</td>
<td>Participant A and B rush towards the closest washing machine and begin pushing and yelling at each other, fighting over who gets that machine</td>
</tr>
<tr>
<td>Behaviours</td>
<td>Pushing, yelling, whining</td>
</tr>
<tr>
<td>Consequences</td>
<td>Both participants are told to stop, and are redirected to other washing machines</td>
</tr>
<tr>
<td>Skills needed</td>
<td>Sharing and turn taking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Evening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>Apartment, kitchen table</td>
</tr>
<tr>
<td>Who is present</td>
<td>Staff, myself, Participant A and B</td>
</tr>
<tr>
<td>Mood</td>
<td>Excited to look at newspaper</td>
</tr>
<tr>
<td>Situation</td>
<td>Participant B collects newspaper, and brings it over to the kitchen table, participant A becomes excited to look at the newspaper. Participant B sits down and begins opening the paper, Participant A grabs at the paper, both participants start yelling, and grabbing at the paper</td>
</tr>
<tr>
<td>Behaviours</td>
<td>Yelling, whining, Participant A biting finger, both participants grabbing at paper</td>
</tr>
<tr>
<td>Consequences</td>
<td>Redirected by staff, Participant A was told to wait</td>
</tr>
<tr>
<td>Skills needed</td>
<td>Sharing and/ or turn taking</td>
</tr>
</tbody>
</table>
Appendix B: Consent Form

CONSENT FORM

TITLE: Examining the Effectiveness of Utilizing Social Skills Training to Increase Interpersonal Skills and Environment Satisfaction in Elderly Roommates with Intellectual Delays.

STUDENT: Amanda Morey

COLLEGE SUPERVISOR: Dr. Yolanda Fernandez, Ph.D

I am a student and I want to try to teach you better skills for working with your roommate, and hopefully make you feel better about your living situation. I will watch to see if you are working better with your roommate. All the information that I collect will be kept private, unless required by law. Your name will not be in any documentation. All documentation will be kept in your Community Living binder, in your apartment or, if on the computer, it will be password protected. All information will be kept for 7 years and then destroyed. In addition, only I, my college supervisor and Community Living will have access to the files.

If you agree to take part you will be asked to answer some questions before and after treatment. It should take between 5 and 10 minutes to answer these questions. You will also be asked to participate in training sessions 2-3 times per week for 5 weeks. Each session will be about 1 hour in length. To take part in the sessions you will be expected to listen to the instructor, watch a role play, and work with your roommate. The amount of time it takes you answer the questions twice, and attend the weekly sessions is the total time it will take for you to participate.

Being part of this project may help you and your roommate get along better, but it may not. If you become upset at any time during this study, the session will be stopped and you can speak to your Community Living support staff. You can stop at any time, and you will not get in any trouble. Also at any time you can ask for all your information to be destroyed.

If you have any questions you can talk to your Community Living support staff of myself, who will then contact my agency, college supervisor or research ethics board for you.

This project has been approved by the Research Ethics Board at St. Lawrence College. The project was created with the help of my college supervisor, Dr. Yolanda Fernandez. I truly appreciate your time if you take part. If you have any more questions or concerns, feel free to ask me, Amanda Morey or email me at amorey06@student.sl.on.ca, or you may contact my college supervisor, Dr. Yolanda Fernandez at fernandezym@csc-scc.gc.ca or 613-536-6686. You may also contact the Research Ethics Board at appliedresearch@sl.on.ca.
If you agree to take part in this study, please sign the attached form. A copy will be given to you, a copy will stay at Community Living and a copy will be in a secure location with the Behavioural Psychology program at St. Lawrence College.

Sincerely,

Amanda Morey
St. Lawrence College Student
CONSENT

By signing this form, I agree that:

- I have been told about the study.
- All my questions were answered.
- I have been told what might be good or bad about taking part.
- I understand that I can stop taking part at any time.
- I know I can ask any questions about the study.
- I have been told that my information will be kept private.
- I know that my name will not be used unless I say it is okay.
- I know that I will get a copy of this form.

I hereby consent to participate.
Participant/Parent/Guardian Printed Name: ____________________________

Signature: _______________________________ Date: ________

Staff/ Guardian Printed Name: ____________________________

Signature: _______________________________ Date: ________

SLC Student Signature: ____________________ Date: ________

Printed Name: ____________________________

Witness Signature: ____________________ Date: ________

Printed Name: ____________________________
Appendix C: Environmental Satisfaction Questionnaire

ENVIRONMENT SATISFACTION QUESTIONNAIRE

Examining the Effectiveness of Utilizing Social Skills Training to Increase Interpersonal Skills and Environment Satisfaction in Elderly Roommates with Intellectual Delays.

Amanda Morey, St. Lawrence College Behavioural Psychology Student
Contact information: amorey06@student.sl.on.ca

The purpose of this project is to determine if teaching you better skills for working with each other will help you feel better about your living situation. Knowing this will help us understand if this program can potentially be utilized with other individuals like you.

The potential benefits of participating in this project are that you and your roommate will increase your interpersonal skills, will gain a better roommate relationship, and will increase your satisfaction with your home environment. Results are not guaranteed in this study.

You will be given the following questionnaire that uses pictures to complete before and after treatment. The questionnaire should take between 5 and 10 minutes to complete. Additionally, you will be asked to participate in training sessions 2-3 times per week for 5 weeks. Each session will be approximately 1 hour in length. To participate in the sessions you will be expected to listen to the instructor, watch a role play, and work with your roommate on a preferred activity.

If you have received a copy of this questionnaire then you have already given your consent for participation in this study. You are still free to withdraw at any time, without stating any reason, and without receiving any repercussions, as it is completely up to you to decide whether or not to take part. At your request all data will be destroyed.

The questionnaire should take between 5 and 10 minutes to complete. The amount of time it takes you to fill out the questionnaire twice, and attend the weekly sessions is the total time it will take for you to participate in this study.

Once you are finished the questionnaire you can return it to a staff member or Amanda Morey, as both will be present in the apartment while you complete the questionnaire.

All information gathered from the questionnaire will be kept strictly confidential, unless required by law. Your name will not be included in any documentation. Therefore, do not put your name on the questionnaire. All documents related to this research study, including the results of the questionnaires will be coded and stored in a locked cabinet at the agency, or if on the computer, will be password protected for 7 years. In addition, only I, my college supervisor and Community Living will have access to the files.

Attached is a copy of the Environment Satisfaction Questionnaire. Your participation in this study is appreciated.
*Note: For confidentiality purposes pictures of participants have been removed from this questionnaire.

ENVIRONMENTAL SATISFACTION QUESTIONNAIRE

How to complete this questionnaire: Circle one of the feeling pictures for your reaction to each of the following scenarios/questions:

1.)
2.

\[\text{Photo of Participant} + \text{Photo of Roommate} = ?\]
3.)

Photo of Participant + Photo of Roommate = ?

[Diagram of facial expressions: Happy, Neutral, Sad, Angry]
4.)

[Image of a person reading a newspaper]

[Addition symbols]

[Photo of Roommate]

= ?

[Branching tree with five faces: smiling, neutral, neutral, sad, angry]
5.)

![Image of a basket with clothes] + ![Image of a laundry room] + ![Image of a photo of a roommate] = ?

[Diagram of five cartoon faces with varying expressions]
6.)

[Diagram showing a face, a television, and a photo of a roommate, with five different facial expressions below it.]

= ?
7.)

[Diagram of an elevator] + [Photo of Roommate] = ?

[Tree diagram with five options: smiling, neutral, neutral, sad, angry]
8.)

![Image of apartment building](image)

Photo of Participant + Photo of Roommate = ?

---

![Options for emotions](image)
9.)

[Diagram showing a person opening a box, a plus sign, a document, and an equals sign followed by a question mark, with a tree diagram below showing five faces: happy, smiling, neutral, sad, and angry.]
10.

= ?

[Diagram of two children and five facial expressions]
Scoring the Environment Satisfaction Questionnaire:

Each feeling picture is represented by a score:

-  = 5 points
-  = 4 points
-  = 3 points
-  = 1 points
-  = 0 points

To calculate the total environment satisfaction score, add each score from each question to come up with the participants' environment satisfaction score.

Environment satisfaction scores defined:
0-19- Very low environment satisfaction- participant is very unsatisfied with their environment and living situation.

20-29- Low environment satisfaction- participant is unsatisfied with their environment.

30-39- Average environment satisfaction- participant has an average environment satisfaction, they are not happy with their situation, but it is not likely causing emotional harm either.

40-50- High environment satisfaction- participant is very satisfied with their environment and living situation, activities and relationships in the home are very satisfying.
Appendix D: Event Recording Chart for Recording Frequency of Daily Appropriate Social Interactions

Participant Code: __

Week: __

Operational Definition:

1. Turn Taking – The target behaviour will be said to be occurring if during non-session recording times a participant allows another participant to take their rightful turn. Or if a participant offers another participant to go ahead or use something first (e.g., go in the elevator first, or use the closest washing machine).

2. Sharing – The target behaviour will be said to be occurring if during non-session recording times if one of the participants will give a portion of something or distributes something (e.g., part of the newspaper) to another participant. Exception: When they are prompted by a staff member.

Instructions: Put a single “X” in one of the following squares each time the target behaviour occurs during the observation period.

<table>
<thead>
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<th>Day 1 (Monday):</th>
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<th>Day 3 (Wednesday):</th>
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<th>Day 4 (Thursday):</th>
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</tr>
</tbody>
</table>

Summary:
Total number of appropriate interpersonal interactions for week: __
Average number of appropriate interpersonal interactions per day: __
Appendix E: Mediator Instructions For Intervention Procedures

CLIENT NAME: Participant A or B    PROCEDURE: Social Skills Training
MEDIATOR(S)*: Student and Staff   LOCATION: Group Home

TARGET BEHAVIOUR(S) (operational definitions):
1. **Turn Taking** – The target behaviour will be said to be occurring if during non-session recording times a participant allows another participant to take their rightful turn. Or if a participant offers another participant to go ahead or use something first (e.g., go in the elevator first, or use the closest washing machine).

2. **Sharing** – The target behaviour will be said to be occurring if during non-session recording times if one of the participants will give a portion of something or distributes something (e.g., part of the newspaper) to another participant. Exception: When they are prompted by a staff member.

<table>
<thead>
<tr>
<th>STEPS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. DATA COLLECTION/OBSERVATION TIME</strong></td>
<td>Data will be collected using a frequency recording chart to analyze the frequency of appropriate social interactions being displayed during each recording session. Collect data by form provided, and a pencil or pen. Indicate if there was the participant engaged in an appropriate social interaction (i.e., sharing and/or turn taking). Data is to be collected for one hour between 6:00pm-7:00pm Monday-Thursday, excluding training session periods to see if social skill use is enhanced outside of the teaching paradigm.</td>
</tr>
<tr>
<td><strong>2. SHARING</strong></td>
<td>Model sharing by splitting the newspaper in half, each participant will get a half of the newspaper for approximately 10 minutes and then the participants will switch their half of the newspaper with the other participant.</td>
</tr>
<tr>
<td><strong>3. TURN TAKING</strong></td>
<td>Demonstrate taking turns by the staff modeling taking their rightful turn entering the elevator or using the closest washing machine while doing laundry.</td>
</tr>
<tr>
<td><strong>4. PHASE ONE</strong></td>
<td>Briefly explain the importance of working together collaboratively by sharing and taking turns.</td>
</tr>
<tr>
<td><strong>5. PHASE TWO</strong></td>
<td>Conduct a brief demonstration of the activity to model appropriate interactions with others. Arbitrarily stop the modeling to explain to the participant whether what is occurring in the modeling scene is appropriate behaviour or not. The scenarios consist of looking through the newspaper, riding in the elevator appropriately, and taking turns while doing laundry). This is to be done both verbally and in sign language.</td>
</tr>
<tr>
<td></td>
<td>Next instruct the participants to complete the tasks together and</td>
</tr>
<tr>
<td>6. PHASE THREE</td>
<td>repeat what they have just watched in the modeling scene, displaying appropriate and collaborative working. During phase three give feedback to both participant A and B and will give verbal and gestural reinforcement to participants for displaying the target behaviours. Do this by saying “good job sharing or good job taking turns” and give a “thumbs up”. Reinforcement will be given on a FR1 schedule, and thus the participants will be reinforced every time they engage in the target behaviours. Reinforcement will be faded and participants will be reinforced on a VR2 schedule once the participants display three appropriate social skills per day, therefore, every other time the target behaviours occur. Each session will last approximately 30 minutes; sessions will be completed 1-2 times per week for 5 weeks.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>7. FEEDBACK/ REINFORCEMENT/ FADING</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: Table of Data for Frequency of Daily Appropriate Social Interactions During Baseline

<table>
<thead>
<tr>
<th>Total frequency per day during intervention</th>
<th>Participant A</th>
<th>Participant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Day 2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Day 3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Day 4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Day 5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Day 6</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Day 7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Day 8</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Frequency per week</th>
<th>Participant A</th>
<th>Participant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Week 2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary</th>
<th>Participant A</th>
<th>Participant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest in a day</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lowest in a day</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Frequency</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Overall mean</td>
<td>0.13 (13%)</td>
<td>0.38 (38%)</td>
</tr>
<tr>
<td>Average per week</td>
<td>0-0.25</td>
<td>0.25-0.50</td>
</tr>
<tr>
<td>Mode</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Median</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>St. Deviation</td>
<td>0.33</td>
<td>0.48</td>
</tr>
</tbody>
</table>
Appendix G: Table of Data for Frequency of Daily Appropriate Social Interactions During Intervention

<table>
<thead>
<tr>
<th>Total frequency per day during intervention</th>
<th>Participant A</th>
<th>Participant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Day 10</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Day 11</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Day 12</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Day 13</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Day 14</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Day 15</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Day 16</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Day 17</td>
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<td>2</td>
</tr>
<tr>
<td>Day 18</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Day 19</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Day 20</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Day 21</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Day 22</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Day 23</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Day 24</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Day 25</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Frequency per week</th>
<th>Participant A</th>
<th>Participant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Week 4</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Week 5</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Week 6</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Week 7</td>
<td>14</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary Table</th>
<th>Participant A</th>
<th>Participant B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest in a day</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Lowest in a day</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Frequency</td>
<td>42</td>
<td>44</td>
</tr>
<tr>
<td>Overall mean</td>
<td>2.47 (234% increase from baseline)</td>
<td>2.59 (221% increase from baseline)</td>
</tr>
<tr>
<td>Average per week</td>
<td>0.75-4.7</td>
<td>1.5-4</td>
</tr>
<tr>
<td>------------------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Mode</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PND</td>
<td>71% = effective</td>
<td>76% = effective</td>
</tr>
<tr>
<td>Median</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>St. Deviation</td>
<td>1.68</td>
<td>1.54</td>
</tr>
</tbody>
</table>
Appendix H: Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant A
Appendix I: Graph of Frequency of Appropriate Social Skills During Baseline and Intervention for Participant B