

**‘THEY’RE SUPPOSED TO HELP PEOPLE LIKE ME SORT OF FIT INTO SOCIETY’:
ADOLESCENT AND PARENTAL PERSPECTIVES FOLLOWING PARTICPATION IN A SOCIAL
THINKING PROGRAM**

by © Aaron Morgan

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Abstract

Research has supported group based social skills interventions in improving the social skills of individuals with ASD. This study considered the perspectives of parents and their adolescent children who attended a Social Thinking group offered by the Autism Society of Newfoundland and Labrador. The purpose of the research study was to determine if the group was beneficial from the perspectives of adolescent participants in the program, and their parents. Qualitative data revealed a number of themes, including 'Friendships / Fitting in', 'Social Opportunities', 'Social Gains', 'Self-Awareness', 'Program Expansion', 'Generalization', 'Past Involvement', and 'Program Characteristics and Limitations'. The themes revealed the benefits and weaknesses from the perspectives of the participants. More studies considering the perspectives of those availing of Social Thinking groups, and like social interventions, are required so that continued development and delivery of these services meet the needs and expectations of parents and individuals diagnosed with ASD / HFA.

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Chapter 1: Introduction

Social impairments are recognized as one of the defining characteristic of Autism Spectrum Disorders (ASD) (American Psychiatric Association, 2013; Crooke, Hendrix, & Rachman, 2008). These social impairments may result in specific difficulties such as a lack of social or emotional reciprocity, difficulty interpreting social cues, and struggles in understanding the intentions or perspectives of others (Ware, Ohrt, & Swank, 2012). As a result of these concerns, the development of meaningful social relationships for these individuals is often hindered. Prolonged struggles with the application of appropriate social skills can result in social isolation, reduced self-esteem, anxiety, and depression; significantly impacting the quality of life of those diagnosed with ASD (Ware et al., 2012). These social deficits affect individuals with this diagnosis across the lifespan, from early childhood, through adolescence, and into adulthood. Considering that the most recent prevalence estimates place ASD at one in every sixty-eight births (Centers for Disease Control and Prevention [CDC], 2016), the need for social intervention is now greater than ever. The present study focuses on a specific intervention offered to adolescents with a diagnosis of High Functioning Autism (HFA); group based 'Social Thinking'. Although there are a variety of interventions aiming to improve the social functioning of individuals with this diagnosis, few studies have considered the 'Social Thinking' curriculum, and even fewer studies have considered the perspectives of those who avail of this model. The following research questions guided the direction and the scope of this research project:

1. What benefits do participants in the Social Thinking Group report?
2. What do parents perceive as the benefits resultant from their son or daughter's participation in the Social Thinking Group?

Adolescence and Autism

As the social environment becomes more complicated, so do the hidden social rules adolescents are expected to follow (Myles, Trautman, & Schelvan, 2004). During this period significant changes are taking place in an individuals' brain and body; inducing changes in physical development, behaviour, and thinking (Hale, Raaijmakers, Muris, Van Hoof, & Meeus, 2009). Changes in adolescence can be problematic for neurotypicals, however, for individuals with ASD these challenges are complicated by deficits in social communication and comprehension of the social world (Myles, 2005). Peer relationships are an important facet of adolescence, and difficulties with an understanding and application of social skills can result in exclusion and rejection (Goldingay et al., 2015). Adolescents, especially those with a diagnosis of High Functioning Autism (HFA), may become quite aware of their social differences resulting in isolation, self esteem issues, anxiety, and depression (Meyer, Mundy, Hecke, & Durocher, 2006; Webb, Miller, Pierce, Strawser, & Jones, 2004). When the level of dissimilarity is perceived to be greater, via social comparison, these adolescents report higher rates of depressive symptoms (Headly & Young, 2006). Due to the significant negative impact of these social difficulties - an identification of useful social interventions, and an understanding of them, is of great

importance based on the increasing numbers diagnosed and the potential of these interventions in improving the quality of life for individuals with ASD.

Parents and Autism

Parents play an instrumental role in the social, emotional, and physical development of their children. Their perspectives of their children's needs, and the ways in which they can be best addressed holds great importance. (Carbone et al., 2013). Prior research has considered the parental priorities for children with ASDs and have found social skills to be ranked highest (Pituch et al., 2011; Spann, Kohler, & Soenken, 2003; Whitaker, 2007). Other studies found communication skills, followed by behaviour and social interaction to be of greatest concern; while another found friendship, emotional development, and social development received similar ratings (Petrina, Carter, & Stephenson, 2015; Rodger, Braithwaite, & Keen, 2004). Regardless of the specifics of these ranking systems – parental priorities for their children diagnosed with High Functioning Autism Spectrum Disorder all land within the realm of social interaction, social cognition, and the overall social competence. As seen in the parental prioritization of social development targets in the studies above, parents are very aware of the importance of social skills, and the fact that so many other factors in life hinge on the application of social skills and the relationships that are resultant from their effective use

(Petrina et al., 2015; Pituch et al., 2011; Rodger et al., 2004; Spann et al., 2003; Whitaker, 2007).

Recent research has recognized the importance of parental perspectives on the understanding of outcome priorities and social gains (Petrina et al., 2015; Tse, Strulovitch, Tagalakis, Meng, & Fombonne, 2007), their children's experiences in social groups (Ware, Ohrt, & Swank, 2012), and community based program improvement (Stadnick, Drahota, & Brookman-Frazee, 2013). Studies have also considered parental perceptions on the importance of friendship and social skills for their children with ASD (Petrina et al., 2015), the trials of transitioning into adulthood (Cheak-Zamora, Teti, & First, 2015), and the challenges of parenting children with a diagnosis of Autism Spectrum Disorder (Smith et al., 2010). However, very limited research has been completed in relation to parent's perspectives of their children's experiences in groups based on the 'Social Thinking' curriculum. Considering the lack of research on this topic, this project was developed to garner a better understanding of this reality for parents and their adolescent children.

Social Thinking

The term 'Social Thinking' is a direct reference to 'social cognition', which is an individual's ability to understand the mental states of others (Crooke et al., 2008). This concept, also known as 'perspective taking' (Southall & Campbell, 2015) is used in social contexts, in part to interpret and understand the intentions and actions of others, allowing

for an individual to engage in appropriate social interactions. The resources and vocabulary of 'Social Thinking' have been developed by Michelle Garcia Winner for students with social cognitive deficits. These interventions have made social concepts more explicit and concrete, allowing students to develop a deeper understanding of social information (Madrigal & Winner, 2008). The 'Social Thinking' curriculum is grounded within the methodology and theory of Cognitive Behavioral Therapy (CBT), an approach which has been found to help students with social cognition difficulties (Attwood, 2006). Applying CBT techniques, Social Thinking provides an avenue through which students can think about their own 'thinking', and then modify it based on social contexts (Madrigal & Winner, 2008). The ability to do this successfully requires an improved ability to regulate one's thoughts and behaviours, and to consider the perspectives of others during social interactions.

Theoretical Framework

The ability to make inferences about the mental states of others, to recognize and understand their beliefs and intentions, and to make predictions as to what they may do next is referred to as 'Theory of Mind' (TOM) (Baron-Cohen, Leslie, & Firth, 1985). 'Theory of Mind' is a major theory in the field of Autism Spectrum Disorders. This theory has been used to determine and develop social interventions and assessment approaches for this population; and will act as the theoretical lens through which the present research project

will consider which factors of participation in group based 'Social Thinking' interventions are most salient for group members, and their parents.

Theory of Mind has been described by Baron-Cohen (1995) as 'mind reading'; and a weak theory of mind, a characteristic of High Functioning Autism Spectrum Disorders, as 'mind blindness'. The majority of TOM-related studies have shown that those with ASD display deficits across various TOM tasks, including examining false beliefs (Baron-Cohen et al., 1985), faux pas (Baron-Cohen, O'Riordan, Stone, Jones, & Plaisted, 1999) and inferencing the mental states of others (Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997). The innate ability to determine what may be happening in another person's mind is a key skill related to our successful functioning in the social world. When an individual cannot understand the thoughts and feelings of another they are at risk of misinterpreting messages, and may often send the wrong messages on account of missing social cues. In this way, social competence in peer interaction is significantly related to a TOM-based understanding of other's minds (Peterson, Slaughter, Moore, & Wellman, 2015). Many of the social-interpersonal and academic difficulties experienced by individuals with ASD are derived to some extent from weaknesses in TOM (Kimhi, 2014).

Since ASD is a neurodevelopmental disorder that affects individuals across the life span (Ware, Ohrt, & Swank, 2012), the effect of a lag in TOM ability on specific life stages is an interesting consideration. Since the focus of the given study is to consider the perceptions of adolescents with HFA, TOM related factors for this specific period of life will be briefly reviewed. By adolescence, individuals with ASD often pass explicit TOM

tasks of varying complexity (Kimhi, 2014), however, these performances do not predict age-appropriate social interactions in natural contexts (Begeer et al., 2011). Mixed results in the higher level application of TOM abilities by adolescent individuals with HFA may in part be the result of the 'artificial nature' of TOM tasks in research; as a result, these successes are not duplicated in the "dynamic situations of real life" (Kimhi, 2014, p.333). A different way of understanding others minds may not impact performance in controlled TOM tests, but "[in] everyday social interactions, individuals with HFA may still experience profound problems understanding the mental worlds of others" (Scheeren, Rosnay, Koot, & Begger, 2013, p.633). Although individuals with HFA show varying difficulties with TOM, these concerns may be mitigated over time (Kimhi, 2014). This suggests that life experience and interventions targeting TOM deficits may improve an individual's application of TOM-related social skills.

Via 'Social Thinking', Winner (2007) has developed a teaching strategy that encourages students to consider how individuals get along with one another. At the core of social thinking, is the concept that our social interactions are guided by a shared emotional understanding of what we want and expect from one another. Considering the direct relation between 'Theory of Mind', and the concept of 'Social Thinking', TOM will act as an effective lens through which the experiences of stakeholders availing of Social Thinking group based interventions can be considered. The following chapter will further discuss the characteristics of ASD, current group based social thinking interventions with

a focus on social cognition, friendship development for individuals with ASD, and the perspectives of individuals who avail of services similar to 'Social Thinking'.

Chapter 2: Literature Review

Autism Spectrum Disorders and social skills treatments for individuals with this diagnosis are both areas which have received considerable research from the academic community. With current prevalence estimations placing ASD at a rate of 1 in every 68 births (CDC, 2016), research investigating the effectiveness of social skill interventions, and contributing to the understanding of social development, are paramount. The following is a review of the literature which considers the characteristics of ASD and the key social difficulties resultant from the diagnosis, current social skills group interventions with a focus on social cognition and a review of their efficacy, as well as current information on friendship development and the factors that effect quality of life for this population. Due to limited literature on the topic, it will also briefly consider the research on parental and adolescent perspectives on social skill group interventions. While social skill impairment is a characteristic across the Autism spectrum, individuals with a diagnosis of level 1 severity (American Psychological Association, 2013) will be the focus of this discussion; and referred to as High Functioning Autism (HFA) for the purposes of this review.

Autism Spectrum Disorder

Autism Spectrum Disorder and High Functioning Autism represent neurodevelopmental conditions which commonly include deficits in functional language

and social competence (Gadow, Roohi, DeVincent, & Hatchwell, 2008; Lopata, Thomeer, Volker, Nida, & Lee, 2008; White, Koenig, & Scahill, 2010), “as well as repetitive behaviors, all of which vary greatly in severity, complexity, and co-occurrence” (Gadow et al., 2008, p. 1331). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) (American Psychological Association, 2013), Autism Spectrum Disorder is a pervasive developmental disorder characterized by persistent impairments in the areas of social communication, and restricted, repetitive patterns of behavior. Social deficits are exhibited through difficulties with social-emotional reciprocity, nonverbal communicative behaviours, and issues with understanding social context resulting in difficulties developing and maintaining relationships. The restricted and repetitive nature of the behaviour, interests, and activities associated with the diagnosis may be exhibited through stereotyped or repetitive motor movements, use of speech or objects; a preference for sameness and difficulty with changes in routine, restricted interests that are atypical in intensity, and hypo or hypersensitivity to sensory inputs (American Psychological Association, 2013).

The DSM-V also describes three severity levels within the domains of ‘social communication’ and ‘restrictive, repetitive behaviors’, which define the intensity of support an individual with a diagnosis of ASD may require; level 3 requiring ‘very substantial support’, level 2 requiring ‘substantial support’, and level 1, ‘requiring support’. At Level 1, which will be referred to as HFA, deficits in social communication cause notable impairments as demonstrated by difficulties in initiating social interaction,

and demonstrating atypical responses to the social engagement of others. Individuals may also have a decreased interest in social interaction. Additionally, severity level 1 is characterized by rituals and repetitive behaviours that can interfere with an individuals functioning across contexts; and an individual with this diagnosis may resist attempts by others to redirect them from fixated interests or repetitive behaviours (American Psychological Association, 2013).

The social impairments that characterise Autism Spectrum Disorder, and more directly, HFA, can be considered further within three specific domains (Goldingay et al., 2015). First, impairments in social interaction; including non-verbal communication, using and responding to eye contact, as well as emotional interpretation and expression. Second, deficits in social communication, such as the ability to effectively navigate conversations, share interests, relate to others, and participate in social reciprocity. Finally, difficulties with social imagination, or 'consequential thinking'. This includes the ability to take another person's perspective to understand their feelings, thoughts, or motives; otherwise known as Theory of Mind (Baron-Cohen et al., 1985). Issues predicting the impact or consequence of one's own behaviour on others, and on one's self, lead to problems in self-regulation and impact a diagnosed individuals' ability to appropriately read and respond to the emotions of others (Goldingay et al., 2015).

These impairments affect an individuals' ability to make meaning of socialization, effectively utilize social communication, and maintain adaptive social interactions with peers and adults (Kroeger, Schultz, & Newsom, 2007, Lerner, Calhoun, Mikami, & De Los

Reyes, 2012). Although intellectual functioning and verbal ability may not be impacted, “parents and teachers consistently report that youth with [HFA] have poorer social skills and competence compared to typically developing youth” (Lerner et al., 2012, p.2681). Deficits in social skill usage and effective communication are related to an impaired ability to understand social information. According to Webb et al. (2004), individuals with Autism make errors in ‘decoding’ and ‘interpreting’ social information, and then act on these misinterpretations when interacting with others. As a result, communication skills may not be applied appropriately – even when functional language is present (MacKay, Knott, & Dunlop, 2007).

Effective socialization requires an individual to know the appropriate behaviours for acceptable social interaction, and to apply these behaviours based on an understanding of others across social contexts (Southall & Campbell, 2015). Through the process of recognizing and responding to others’ mental states, often referred to as Theory of Mind (Baron-Cohen et al., 1985); people interpret and predict the actions and intentions of others – enabling them to have appropriate social interactions (Southall & Campbell, 2015). Research has shown that individuals with ASD have difficulty with a variety of TOM tasks (Elder, Caterino, Shacknai, & Simone, 2006). This is reflected in Autistic individuals’ difficulties understanding and appreciating others’ thoughts, needs, feelings, and intentions; as well as accurately anticipating how their own behaviours may impact others (Baron-Cohen et al., 1985).

Friendship

The significant social impairments experienced by individuals with a diagnosis of HFA may result in particular difficulties in establishing and maintaining age appropriate peer relationships and friendships (Fuentes et al., 2012; Petrina et al., 2015). Although there continues to be some debate regarding the true definition and meaning of friendship throughout the lifespan, researchers have agreed that friendships serve the important functions of companionship, affection, intimacy, and trust (Buhrmester, 1996; Hobson, 1993; Howes, 1996; Sullivan, 1953). According to Fuentes et al. (2012), friendships are developed from a unique set of peer relationships that are based on non-contractual interactions which are reciprocal and stable across time. With deficits in the areas associated with friendship development, individuals with a diagnosis of HFA are missing these meaningful social relationships; and friendship studies have found that those diagnosed with HFA have a lower frequency of socialization, fewer reciprocal and stable friendships, and friendships of lower quality than their same aged peers (Bauminger, Solomon, & Rogers, 2010; Bauminger-Zviely, 2013; Boutot, 2007; Kasari, Locke, Gulsrud, & Rotheram-Fulle, 2011; Kuo, Orsmond, Cohn, & Coster, 2011).

Difficulties in the area of friendship development have broad effects on individuals with HFA. Research has found that peer relationships aid in social development, and that friendships provide a context through which social learning is supported (Harrell, Mercer, & DeRosier, 2008). During adolescence peer relationships are also related to the social,

emotional, and cognitive functioning of an individual; in addition, the social interactions experienced during this time have been found to have a long-term impact on future interpersonal functioning (Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 2006; Piaget, 1954; Savin-Williams & Berndt, 1990; Sullivan, 1953). Past research has also found that friendship quality, and healthy attachment to friends are positively associated with self-esteem (Harrell et al., 2008; Ryan, Stiller, & Lynch, 1994). The benefits of friendship are evident, and they have positive implications for the social development of individuals who are capable of establishing them; but an absence of them can also have a profound effect on an individuals' social development and quality of life.

Buhrmester (1996) reported that adolescents with HFA reference affection, intimacy, loyalty, and helpfulness significantly less often than their same aged peers when describing their friendships. Friendship difficulties have also been associated with higher rates of bullying; and studies have shown that youth with a diagnosis of HFA are significantly more likely to experience victimization than their typically developing peers (Waugh & Peskin, 2015; Nowell, Brewston, & Goin-Kochel, 2014; Van Roekel, Scholte, & Didden, 2010). Bullying is a major concern for this population. Youth who experience frequent bullying are at higher risk for demonstrating low self-esteem, depression, and anxiety (Storch et. al, 2012). Combine this with frequent failed attempts to interact with peers and establish relationships and the risks of mental health problems among this population increase. According to Tse et al. (2007), adolescents with HFA become very aware of their social difficulties at a time when, "fitting in is of overriding importance,

[and] these young people may find themselves isolated, rejected or even bullied” (p.1960). Research has shown that peer acceptance throughout the school years is a powerful predictor of mental health and psychological well-being into adulthood (Sherman, De Vries, & Lansford, 2000). The risks associated with peer rejection have the potential to extend far beyond adolescence, and individuals with HFA report significantly higher levels of depression and anxiety (Mayes, Calhoun, Murray, Ahuja, & Smith, 2011). The above findings highlight the urgency of interventions that may enhance the social functioning of individuals with HFA; which may result in increased peer acceptance and hopefully higher rates of friendship formation for this population.

Social Skills Group Interventions

A variety of social skill interventions have been developed for individuals with a diagnosis of ASD. Social skills training groups have been shown to improve measures of social competence, friendship quality, and some measures of quality of life for individuals with a diagnosis of HFA (Williams, Milner & Haslam, 2013), and social cognitive approaches, such as ‘Social Thinking’ (Winner, 2007), are gaining attention as treatment options for ASD (Crooke et al., 2008; Southall & Campbell, 2015). Although the research on the efficacy of social skills interventions for this population continues to grow, the current literature on ‘group format’ interventions is notably limited. Studies considering groups based upon the Social Thinking curriculum are even more sparse, and require

further inquiry. Due to the absence of research on Social Thinking groups, the following will provide an overview of studies that have considered the efficacy of other social skills group based interventions (DeRosier, Swick, Davis, McMilen & Matthews, 2011; Goldingay et al., 2015; Kroeger et al., 2007; Mackay et al., 2007; McMahon, Vismara, & Soloman, 2013; Tse et al., 2007) and a single study considering the effectiveness of teaching social thinking to children with a diagnosis of Asperger Syndrome (AS), and HFA (Crooke et al., 2008).

For individuals with a diagnosis of ASD, or HFA, persistent social skills difficulties may impede their ability to form relationships and have meaningful social interactions (Tse et al., 2007). This highlights the urgency for social interventions, including group based social skill development programs. A review of current social skills groups provides some support for their inclusion in treatment plans for children with ASD (Williams et al., 2013). Group curriculums combining psychoeducational and experiential teaching strategies with a focus on role-playing have been effective in aiding adolescents with ASD to develop greater comfort and confidence in social interactions (Tse et al., 2007). ‘Social Skills Training Programs’ or SSTPs (McMahon et al., 2013), have also aided the development of social skills. McMahon et al. (2013) observed the social behaviour of children participating in a SSTP during the group sessions, and used multiple data points to determine behaviour change over the course of the program. Participation in the program led to positive changes in social behaviour as measured by increased

vocalizations directed towards peers, and increased interactions with peers during activity time.

Specific components of some structured social skill groups that have shown success include modeling, role-playing, video recording, and constructive feedback; these approaches have been effective for teaching conversation skills, body language interpretation, friendship building, and perspective taking (Webb et al., 2004). Goldingay et al. (2015) implemented a social skills intervention based on pretend play skills, similar to role-playing, for adolescents with ASD. The aim of the social skills group using this method was to increase social understanding, flexible thinking, perspective taking, and self-regulation. Results indicated a “large improvement in self-regulation, and medium size effects in empathy, cooperation, and flexible thinking” (Goldingay et al., 2015, p.129). Kroeger et al. (2007) also investigated the efficacy of one of these methods, specifically video modeling, in teaching play and social skills over the course of a group based intervention. This approach led to improvements in the participants’ prosocial behaviours, including initiation behaviours, responding behaviours, and interacting behaviours. They concluded that group interventions may be even more beneficial when they are delivered with a direct instruction format, since the gains were greater in the direct teaching group than a comparison ‘play activities group’ in which members were not exposed to the video modeling approach (Kroeger et al., 2007).

Another social skills intervention that has received some attention is the Social Skills Group Intervention, or S.S GRIN (DeRosier, 2007). This program combines cognitive-

behavioural and social learning techniques to build on the social skills and peer relationships of individuals that are at risk of being socially isolated. Longitudinal studies focused on S.S GRIN have demonstrated improvements in children's social behavior (DeRosier & Marcus, 2005). In a study consisting of 55 participants, ranging in age from 8 to 12, DeRosier et al. (2011), evaluated S.S GRIN-HFA – a version of the intervention developed to address the gaps in effective treatments for social difficulties in children with HFA. Parents of members participating in the group reported higher levels of self-efficacy, and children in the group demonstrated significant improvements in social skills measures such as awareness, communication, motivation, and mannerisms. The original S.S GRIN procedure was established for typically developing children, but the effectiveness of the specialized S.S GRIN-HFA speaks to the importance of the development of interventions that directly address the core deficits associated with ASD and HFA.

According to Crooke et al. (2008), traditional social skill interventions are based heavily on the principles of behaviourism, but developments in the cognitive and social sciences have called attention to social cognition. Social cognition, as explained by these authors, is the process through which individuals, “acquire, understand, and use social knowledge to quickly and accurately respond to verbal and non-verbal social information” (Crooke et al., 2008, p. 582). The Social Thinking approach targets social cognition by supporting individuals with ASD in asking the ‘why’ behind social skills (Crooke et al., 2008). Social Thinking is the complex mental process through which we;

Make sense of the world around us; it is our grand interpreter and social meaning maker. We are expected to use it to figure out people's feelings and motives - whether they appear in person, on a screen, in a book, in a painting, etc. We are also expected to use it to infer what others are thinking about us. As we make sense of this social information we then can choose how to respond to it. (Winner, n.d.)

In the study by Crooke et al. (2008), the group treatment sessions were 60 minutes in length, and ran for 8 consecutive weeks. Each of the lessons used throughout the intervention were designed to promote Social Thinking concepts. Participants in the group experienced significant changes in their social skills measured by increases in their demonstrated 'expected' social behaviours, such as; making on-topic remarks, initiating conversations, and using appropriate eye gaze. A reduction in 'unexpected' social behaviors also occurred for some members, but were not considered significant across the entire group. Examples of 'unexpected' social behaviours included; making rude remarks or off-topic comments, screaming or yelling, perseverative topic choice, and atypical use of objects and body language. The results of this study are note worthy as they support the efficacy of Social Thinking interventions, and add to the small number of studies examining the benefits of interventions based on social cognition for individuals with HFA.

Other studies have provided additional evidence of the effectiveness of interventions based in social cognition. In their research review Southhall and Campbell

(2015) considered the use of perspective-taking teaching strategies across various modes of implementation, including group based instruction. They found that group work interactions provide an environment through which the social skills being taught are reviewed and practiced in real-time as group members apply listening, theory of mind, conversation, and cooperative skills to their ongoing social interactions with group instructors and other participants (Southall & Campbell, 2015). The development of perspective taking and theory of mind skills via group based intervention has also been supported by the findings of Mackay et al. (2007). These researchers implemented an after-school group which focused on a variety of perspective taking skills, including; acknowledging others speaking, personal space, being aware of the knowledge of others, and speaking at the appropriate times. Post-treatment, participants experienced significant gains in their social-emotional perspective taking, conversation, and friendship skills (Mackay et al., 2007). 'Social Cognition and Interaction Training' (Penn, Combs, & Mohamed, 2007) has also shown promising results (Bauminger, 2007; Turner-Brown, Perry, Dichter, Bodfish, & Penn, 2008). Following teacher-led instruction focused on demonstrating different people's perspectives and group interactions, including role-plays; participants improved in theory of mind and perspective taking tasks. Although the research on Social Thinking itself is limited, there is evidence to suggest that group interventions based on social cognition are effective in improving the social skills of individuals with a diagnosis of HFA.

Parent and Adolescent Perspectives on Social Interventions

Although few social skills groups have been evaluated in past literature (Rose & Anketell, 2009); even fewer have considered the perspectives of the parents and children who access such interventions. Understanding the viewpoints of the individuals accessing social skills interventions is an important consideration since this information may enable more effective service delivery, and greater levels of satisfaction for the parents and children availing of it. A limited number of studies have directly considered parent perspectives on community based mental health services (Brookman-Frazee, Baker-Ericzen, Stadnick, & Taylor, 2012; Stadnik et al., 2013), and few have considered parent and child perspectives as a component of studies focused on the benefits of social skills groups, or the efficacy of social skills improvement strategies (MacKay et al., 2007; Rose & Anketell, 2009; Webb et al., 2004). For the purposes of this project, a focused literature search was conducted seeking information on the perspectives of the parents of individuals diagnosed with ASD or HFA, as well as the perspectives of their children who participated in social skill groups, or availed of social skill interventions – however, limited results pointed to a gap in this area of research.

Two related studies conducted by Stadnik et al. (2013), and Brookman-Frazee et al. (2012) considered parent's perspectives in relation to community mental health services offered to their children diagnosed with ASD. Stadnick et al. (2013) identified that parent perspectives on the treatment process and its perceived effectiveness are not only important with regards to service improvement; but are of particular importance for

this population since, “parent advocacy groups play a critical role in service access and policy regarding service provision and funding” (p.415). These studies did not consider social skill groups or social skill interventions directly, but rather evidence-based practices that targeted behavioural treatment or psychiatric concerns for children with ASD. Although these studies cannot contribute to the literature on parents’ perspectives of social groups, these studies are examples of how the consideration of these opinions can reveal meaningful information about an intervention, suggesting that a similar consideration of social thinking groups may be a valuable exercise.

In their study, Stadnik et al. (2013) found that parents reported positive impacts of the community mental health services on their children, and on themselves. Specifically, parents shared that their children’s challenging behaviours had decreased, their emotional management had improved, and they learned new social skills. According to the authors, “providing attention to parents’ unique perspectives allowed for specific information on the process and changes in child and parent skills” (Stadnik et al., 2013, pp.421). These results suggested that continued efforts to implement services of this nature may be successful in improving care for children with ASD and their families. An earlier study by Brookman-Frazee et al. (2012) was conducted because, “no study to date [had] thoroughly examined parent perspectives regarding the community health service system specifically” (p.534). Their study found that parents consistently voiced disappointment and frustration with the process of accessing community services, and shared information about the barriers they encountered in receiving community mental

health interventions for their children with ASD. The findings in this case highlighted the requirement for improvements in the community health services these families wished to access. In both cases, the perspectives collected provided greater insight into the experiences of the people needing, and availing of this intervention – allowing for a greater understanding of its strengths and weaknesses. The development and implementation of social skills groups for individuals with a diagnosis of ASD and HFA would benefit from the same review.

In a research article focused on social skill development, Rose and Anketell (2009) considered the benefits of a social skills group from the perspectives of group facilitators, parents, and child participants. Using questionnaires and evaluation forms they discovered a number of positive aspects of the social skill group; one characteristic identified as being invaluable was the opportunity for participants to form friendships, and foster normal socializing experiences with like peers in a safe and controlled environment (Rose & Anketell, 2009, p.137). Parents in Rose and Anketell's (2009) study also reported that their child's participation in the social group provided a sense of validation for their experiences in parenting a child with ASD. Overall, the child participants also made positive and encouraging remarks related to their time spent in the social skills group. They reported that the group allowed them to make new friends, and learn new social skills such as starting conversations (Rose & Anketell, 2009). Rose and Anketell (2009), received generally positive feedback from both the parents and

children participants in their study, suggesting that the groups were beneficial for the children and adolescents who attended the social skills sessions.

Another research study considered the efficacy of the SCORE Skills Strategy in teaching a group of adolescents with HFA five specific social skills; sharing ideas, complementing others, offering help, recommending changes nicely, and exercising self control (Webb et al., 2004). The SCORE program was developed by the University of Kansas Center for Research and Learning, and presents the target skills in concise steps that include modeling, verbal rehearsal, and specifically designed role-play scenarios (Vernon, Schumaker, & Deshler, 1996). Although the main purpose of this research article was to measure the effects of the SCORE intervention, the researchers also considered the satisfaction levels of group participants and their parents. The majority of adolescent participants reported that they were very satisfied with the social skills they had learned; the majority felt they were now better equipped to socialize with others, and they felt that other adolescents would benefit from participation in the program (Webb et al., 2004, p.60). Parent satisfaction levels were similar. Overall they felt that learning the SCORE skills was a fun and interesting exercise for their children, and they felt that their kids actively participated in the program (Webb et al., 2004). Most importantly, when asked if they believed learning the social skills offered by this intervention would benefit other adolescents, all of the parents participating in the study responded 'yes' (Webb et al., 2004). Although this study considered a specific teaching strategy, these opinions

highlight that similar social skills groups may provide meaningful experiences for participants, and may also be perceived as valuable by parents and group participants.

Mackay et al. (2007) also considered the use of a social skills group work intervention to improve the social communication and community inclusion for individuals with ASD. The intervention implemented as part of this study ran for 12 – 16 weeks, and sessions were held weekly for a minimum duration of 1.5 hours. As reported by Mackay et al. (2007); the key themes addressed in the groups were; social and emotional perspective taking, conversation skills, and friendship skills. In this case, the researchers conducted follow-up interviews with the parents of the group participants to collect a “qualitative commentary on the parent’s perceptions of their child’s experience of the groups, and whether they perceived progress in social interaction skills in the real-life settings of home and community” (Mackay et al., 2007, p.283). Of the 31 parents interviewed, 28 reported that they believed the group was helpful; and when asked if anything had changed with regards to their child’s social interaction, a number of themes emerged, including; a reduction in inappropriate social behaviour, an increased awareness of listening to and acknowledging the views of others, improved conversation skills, increased social participation, and improved reciprocation of others interests (Mackay et al., 2007).

According to Mackay et al. (2007), parents also shared their perceived weaknesses of the group, which included the short term nature of the groups, its inability to address more general behaviour problems, and the fact that the groups would not continue as a

routine aspect of their child's services. The results of this research not only point to the benefits of participation, but also to possible improvements; or possible gaps in the services received by children with ASD from the parental point of view. The understanding offered from this consideration would not have been possible without delving into the parental perspectives on the group work intervention – and the provision of social skills improvement interventions will benefit from broader explorations of parent and participant perspectives in the future.

Conclusion

ASD and HFA have received considerable attention as evidenced in the research referenced above; but more is required. The need for an understanding of this developmental disability, and best treatment approaches has reached a point of urgency as prevalence rates seemingly continue to rise (CDC, 2016). From understanding friendship development to quality of life measures, the need to appreciate and improve the social skills of individuals with this diagnosis remains. Additional research focused on group based social interventions, and especially Social Thinking are required to make the determination of efficacy for these interventions and services. Additionally, a deeper reflection of the perspectives and opinions of those receiving these services is paramount to painting the entire picture of experience for individuals with ASD, and their family members.

Chapter 3: Methods

Overview

This research project investigated the perceptions of parents, and their adolescent children participating in the Autism Society of Newfoundland and Labrador's (ASNL) 12 week '*Social Thinking*' program. The project aimed to address the following questions:

- 1) What benefits do participants in the Social Thinking Group report?
- 2) What do parents perceive as the resultant benefits from their son or daughter's participation in the Social Thinking Group?

The purpose of this research study was to determine if '*Social Thinking*' group work is beneficial for teens with a diagnosis of Autism Spectrum Disorder (specifically High Functioning Autism). This project focused on the participants' experiences in the group, and their perceptions of its benefit. Through an exploration of these perceptions and opinions the study aimed to develop an understanding of what approaches, activities, and topics work best for group participants. In addition, the perceptions of the guardians of the group participants were considered. This gathered information related to the social skills prioritized by guardians for improvement, as well as their opinions on the usefulness or effectiveness of the group.

The primary goal of this research study was understanding the participants' perspectives; but their opinions also allowed for a consideration of the factors that may inform future service improvement. This research design did not permit statistical analysis

of the efficacy of the 'Social Thinking' program, but a secondary goal of assessing the strengths and weakness of the program was also considered via participant reported perceptions and experiences. The following chapters will discuss how the primary and secondary goals were assessed, as well as the conclusions indicated by the qualitative data collected.

Design

A qualitative research design was used to investigate parental and group participants' perspectives on the benefits of the Social Thinking Program offered by ASNL. Qualitative inquiry was implemented in an attempt to garner a deeper and more complete understanding of the experiences of parents and group participants to determine core factors that may influence the future implementation of the Social Thinking program and like social interventions. Using principles of qualitative research, the experiences of participants were considered via interviews and written responses. According to Welman and Kruger (1999), qualitative researchers are concerned with understanding social and psychological phenomena from the perspectives of those involved. At the core, a qualitative researcher is interested in the lived experiences of the people involved with the issue being considered (Groenewald, 2004). For this reason, a qualitative design borrowing aspects of phenomenological inquiry was considered the most applicable method for this research project. The approaches used in data collection aimed to gather descriptions of experience, as well as hopes for and reflections on the outcomes of

participation in the social cognition intervention. The study also sought to determine the meaning of these treatment opportunities for participants and their parents, the impact on their social skill development, and the broader implications of social skill treatment in their lives.

The Interdisciplinary Committee on Ethics in Human Research (ICEHR) at Memorial University of Newfoundland and Labrador reviewed the complete study proposal. All forms used during recruitment and data collection were critiqued by the committee to ensure they met the ethical standards expected of all projects completed by researchers at Memorial University. This included correspondence with the research facility (ASNL) (Appendix A), the participant recruitment letter (Appendix B), all questionnaires and interview templates including; the parental pre-session interview / questionnaire (Appendix C), group participant weekly journal templates (Appendix D), group member post-intervention interview outlines (Appendix E), parental post-intervention interview outlines (Appendix F) as well as the informed assent (Appendix G) and consent forms (Appendix H) which outlined; the procedures of the research, the purpose of the research, the potential benefits and risks associated with participation, the participant's right to withdraw from the study at anytime, and the procedures that would be used to ensure confidentiality. All aspects of the proposal as approved by the ICEHR were followed throughout the course of this research project.

Intervention: Social Thinking Groups. As outlined by the Autism Society of Newfoundland and Labrador (2016), the Social Thinking program is based upon the curriculum created by Michelle Garcia-Winner, and provides “a framework through which individuals are taught to build specific thinking strategies that result in more effective social interactions” (Vision section, para. 1). The program uses Social Thinking resources to help group participants develop social confidence, and enhance their social abilities. The Social Thinking curriculum does not explicitly teach social skills, but rather “social cognition through related skills that include the thinking strategies that occur prior to social interaction and communication” (Autism Society of Newfoundland and Labrador [ASNL], 2016, Desired Outcomes section, para. 1). These social cognition concepts are taught via structured activities, role playing, and natural group interaction with generalization opportunities.

The program offered by ASNL has specific selection criteria. Social Thinking is a language based learning approach and it is designed for individuals with average to above average intelligence with a preference for verbal communication (ASNL, 2016). As a result, participation in the intervention program is typically limited to individuals with a diagnosis of Autism determined to be ‘High Functioning Autism Spectrum Disorder’ (HFA). Individuals with HFA may possess complex language skills, but exhibit deficits in social awareness, emotional regulation, and expression (Waugh & Peskin, 2015). Potential group members are also subject to an informal assessment led by the group instructor; this ensures the individual is a good fit for the curriculum, and also assists in determining

appropriate grouping of members (ASNL, 2016). As a result of this selection criteria, the participants in this study were limited to individuals meeting the diagnostic criteria and screening process of the program.

ASNL's Social Thinking program is semester based, dividing the year into Fall, Winter, Spring, and Summer semesters of approximately twelve weeks in duration. Groups consist of two to six individuals, and weekly group meetings are between one and two hours in length. The group sessions are facilitated by ASNL's Social Thinking Program Coordinator (ASNL, 2016).

For further information on the curriculum, the resources used, and the structure of the program offered by ASNL, please refer to their overview on Social Thinking; <https://www.autism.nf.net/programs/social-thinking/>.

Participants. The purpose of this study was to garner a deeper understanding of the experiences of the parents and participants availing of the Social Thinking program offered by the Autism Society of Newfoundland and Labrador. Two groups were considered specifically; adolescent participants taking part in the social thinking program sessions, and their parents.

The sample studied consisted of twelve individuals – six group members, and six parents. No control group was used in this project; the goal was not to compare treatment groups or determine the efficacy of the program, but to develop a further understanding

of the experiences of its consumers; as well as gather their opinions regarding the strengths and weaknesses of the program itself. Group participants between the age of thirteen to eighteen years old were targeted; final study participants ranged in age from fourteen to sixteen years old. The group members consisted of five males, and one female. An invitation to participate was sent out, as outlined below, to the guardians of the twenty-three individuals registered for the program. Six dyads agreed to participate in the study (consisting of six parents and six adolescents). Giorgi (2009) has identified that in the qualitative method of human science, the use of at least three participants is recommended. The six parents who participated consisted of four mothers and two fathers. No preference was given to either parent – the numbers represented were the result of which parent volunteered, and which parent was available to participate in the follow-up interview. At no point were both parents of the group members present during the interview process.

All participants were recruited from the Autism Society of Newfoundland and Labrador's membership. This specific population was selected for possible participants for obvious reasons; individuals from their membership would be availing of the services offered by ASNL, and as a result have experiences of interest to the research project. Access to the program itself was restricted by the program criteria outlined above, as well as subject to the coordinator's selections – as a result only those individuals admitted into the Social Thinking program were considered for the study. Limiting the population for participation in this manner is an example of purposive sampling; which is considered by

Welman and Kruger (1999) to be one of the most effective methods of non-probability sampling. Initial calls for participation were included in a recruitment letter sent through the ASNL e-mail list (Appendix B), and recruitment packages were distributed throughout the Social Thinking groups containing the purposes of the research, consent and assent forms, as well as the pre-intervention parental interview / questionnaire (Appendices B, C, F, G, H). All the participants that responded to the recruitment email or returned the recruitment forms were included in the research. Individuals planning to avail of the Social Thinking services were given the opportunity to participate in the project, and only those who volunteered were included in the research project.

Measures (Data Collection). There are typically two data collection approaches in qualitative research; the traditional face-to-face interview, and written or recorded accounts of experience (Giorgi, 2009). In the case of the group participants, both approaches were used. The adolescent 'Social Thinking' group members who participated in the spring semester of the program were recruited for this study. Group sessions were 1.5 hours in length, and occurred once weekly for 12 weeks. Once all consents were provided – data was collected for 8 weeks of the program. At the end of the formal educational component of each of the 8 group sessions, the group members participating in this study were asked to complete a number of questions provided in a 'reflective journal' (Appendix D). The questions were designed to have participants reflect on their experiences related to that day's lesson. When needed, the Social Thinking Program

coordinator assisted participants in the completion of the session journals by redirecting their attention to complete their written responses to the questions, or by acting as their scribe while they provided verbal responses. Since the need for scribing was not anticipated the process was not a planned component of the data collection; it was initiated by the group coordinator in an effort to collect as much information as possible.

Each group participant was also interviewed by the primary researcher using a semi-structured interview design (Appendix E). Each participant was interviewed in person, and interview meetings were scheduled with the parents of the group participants via email correspondence. The interviews were completed one-on-one in the Social Thinking Program coordinator's office, where the participants were asked to share their opinions related to the effectiveness of the group and session content. Only the primary researcher and the group participant were present during the interviews. Each minor participant was given the option of having a parent present for the interview process, but none selected this option. All interviews were audio-recorded using a handheld digital recorder to enable transcription. The questions outlined on the interview templates (Appendix E) acted to guide the interview process – however, participants were encouraged to expand on their answers and share any additional information related to their opinions of the group, and to their experiences during the semester.

Information from the parents of the group participants was also gathered via two separate approaches; a pre-intervention interview / questionnaire (Appendix C), and a post-group semi-structured individual interview (Appendix F). Parents were provided with

a recruitment package which included a 'Pre-Session Interview / Questionnaire'. This form required parent participants to rank the 'Social Thinking Concepts' covered in the group by importance (by assigning them a number between one and six; with one identifying the skill needing the most improvement, and six the least). Three interview questions were also included to gather information from parents regarding their priorities for their son or daughter's social development, their hopes for social skills gains, and any past involvement with social improvement interventions. Contained in the recruitment package were instructions requesting that parents return the completed pre-session interview / questionnaire and other research forms to the Social Thinking Program coordinator in a sealed envelope, which was provided.

The parent participants were also interviewed following their son or daughter's completion of the Social Thinking program. The researcher followed a semi-structured interview format. These interviews were scheduled via e-mail based on participant availability. The one-on-one interviews with parental participants were also conducted in a private room, free of interruption. Much like the interviews of the group participants, the interview outlines acted as a guide for questioning, however, parents were encouraged to share any additional information they felt was relevant to the study. Additionally, the line of questioning offered by the primary researcher evolved depending on the direction of participant responses. Each interview was also audio-recorded to enable later transcription.

Measures (Data Organization). The audio files of each parental and Social Thinking group participant interview were reviewed and transcribed verbatim. These transcriptions were color coded during this process so that the text spoken by the interviewer and the interviewee would be easily discernible during thematic analysis. The interviewer's questions and comments were typed in blue font – while the participant's responses were transcribed in black. To support anonymity and safe transport of the data all audio files and interview transcriptions were assigned individual codes; for example, A01 would identify a group participant while A01P would identify that group participant's parent. These codes followed the same format throughout the sample (A01-A06, A01P-A06P).

Each interview transcription was reviewed for accuracy by comparing the text to the audio files of the interviews. Following confirmation of accuracy; the files were studied for key statements. This was a critical step in the interpretation of the data as the key statements were selected to highlight important reflections on the participant's experiences (Groenewald, 2004). Each sentence or small paragraph of interest was then organized in a table for each of the interviewees. This process was used to delineate the data into 'meaning units', which would then be used for further analysis (Elliott & Timulak, 2005). Using this layout style to organize the data increased the efficiency of appraising the information for possible themes. This entire process was completed digitally; while viewing the transcriptions in a word processor, the sections of interest to the primary researcher were 'copy' and 'pasted' into a separate document for later review.

Once the initial key chunks of data were reviewed the meaning units were coded and placed in a table which labeled the themes present throughout each transcript. During this process specific sections of some statements were isolated from the original 'key statements' tables. This was only completed if doing so improved the legibility and clarity of a statement, without modifying its intended meaning. According to Elliott and Timulak (2005), when meaning units are delineated, they may be shortened by removing redundancies that do not change the overall meaning contained in the isolated statement. The themes selected during this coding process evolved directly from the key statements. The goal was to determine regularities or similarities in the reports of the participants, and then to group these units of meaning together (Creswell, 1998; Elliott & Timulak, 2005; Glaser & Stauss, 1967; Groenewald, 2004). This was achieved by comparing the key statements selected until the emerging meanings could be defined into themes or categories.

The emerging themes for the social group participants were identified as; 'Fitting in / Friendships', 'Social Opportunities', 'Social Gains / Learning and Development', 'Self-Awareness', 'Program Characteristics', and 'Program Limitations'. For parents, the themes identified were; 'Social Gains – Fitting in / Friendships', 'Generalization of Skills / Learning', 'Program Expansion', 'Program Characteristics', 'Program Limitations', and 'Parental Uncertainty'. A theme was only included if it was common to a minimum of two interviewees; and great care was taken during this assessment to ensure alternative perspectives on the group were not overlooked (Hycner, 1985). This process was

completed by printing off the original 'meaning units' documents. They were then read by the primary researcher; during this review colored pens were used to highlight meaningful sections, and potential themes were noted on the margins of the paper. Any sections with potential similarity in theme were highlighted using the same color pen. Once complete, the potential themes noted during the review were compared. Commonly occurring themes were then identified, or related sections were defined under relevant thematic headings. The sections of interest were then 'copy' and 'pasted' from the digital files into new tables organized by theme headings for each study participant.

Group participant weekly journals were organized in a similar fashion. The primary researcher first reviewed each of the journals and typed participant answers into a 'responses chart'. This table organized the responses of each participant by their assigned study code (i.e. A01-A06), and by the journal question they were responding to. All responses were typed exactly as written by participants (or the Social Thinking Group Coordinator when scribing was used) on their weekly reflective journaling sheets. During this initial organization phase, no information was removed, even if an answer was identical across a number of weeks. Once complete – the tables were reviewed and redundancies were removed.

The 'responses chart' was then used to identify the potential themes found throughout the journals. The primary researcher read through the digital chart while handwriting potential themes to be used for further analysis. Once potential themes were identified they were compared across participant. Due to the sparsity of information

gathered through the journaling process, the majority of information was coded. Rather than consider the journal text as a whole for overarching themes – the themes were considered on a question-by-question basis. This was an effective method of evaluation given that some of the responses were very short, sometimes single word answers such as, ‘yes’, ‘no’ or ‘good’. Identifying the question to which these answers were provided allowed for a more complete contextual understanding of the journaling data. This information was placed in a coding chart which organized the journal answers under each of the seven questions by respondent code, and relevant theme.

The data collected via the parental pre-interview / questionnaire forms (Appendix C) were organized in two different ways. First, all the social thinking concept rankings provided by parents were organized in a chart. The rankings for each of the concepts were then compared across parents to determine agreement. This was achieved by simply determining the ratio at which each concept was ranked, for example – the ‘Appropriate Social Interactions’ concept was ranked as most important by four of six parent participants. Secondly, the written responses to the interview questions were reviewed by the primary researcher and then typed into a word processor document. These responses were simply placed in a table format; organized by question and participant code. The supplemental information found in this interview data was not coded or thematically organized.

Transcript Coding Triangulation. According to Creswell (2008), triangulation is the process of corroborating evidence from multiple view points. This was achieved in this research project by collecting data from different individuals (parents and group participants), and using different data collection methods (interviews and journals). Analyst triangulation was also applied during the coding process, according to Patton (1999), using multiple analysts during a review of the data can provide a check on 'selective perception', and contributes to more accurate data interpretation by considering multiple perspectives. To achieve analyst triangulation, the first set of interviews were independently coded by the primary researcher and the thesis supervisor. Through this process interpretations from the interview transcripts were compared, allowing for a compensation of any potential biases (Beauchamp, Drapeau, & Carmen, 2015). The key word coding results for parent A01P and participant A01 were reviewed during a face to face meeting (November 25, 2015). Although different terms were used by the primary researcher and thesis supervisor, there were clear agreements on the thematic content found throughout the transcripts. For example, the primary researcher originally coded a number of statements under the heading, 'Socialization / Communication' – while the thesis supervisor labeled the same statements as, 'Social Opportunities'. On another occasion the researcher placed a number of statements under two separate headings; 'Social Skill Strategies / Tools' and 'Improvement / Learning and development'. The thesis supervisor combined the statements of interest under these headings into a single 'Social Gains' category. Although the vocabulary chosen to label the

themes differed; following open discussion, it was clear the primary researcher and thesis supervisor essentially used synonyms to label the same thematic meanings. These agreements in essential thematic content allowed triangulation of the interview data. Using this information, the primary researcher developed headings for all interview transcriptions; ensuring the most meaningful elements of their experiences were recorded and organized using appropriate and accurate thematic definitions.

Chapter 4: Results

The purpose of this qualitative study was to develop an understanding of the perspectives of adolescents who participated in a group based 'Social Thinking' program, and the perspectives of their parents. The primary research questions considered the potential benefits of participation in the 'Social Thinking' program, and sought to gather the perceived benefits from participants and their parents. The research questions were:

1. What benefits do participants in the Social Thinking Group report?
2. What do parents perceive as the resultant benefits from their son or daughter's participation in the Social Thinking Group?

During this process information regarding the program delivery was also gathered; as a result, the strengths and weaknesses of the program could also be considered via the opinions of parents and the adolescents directly participating in the program.

Participants

Twelve individuals participated in this project; six parents, and six adolescents. Each of the adolescent 'Social Thinking' group members were diagnosed with High Functioning ASD. Group members ranged in age from fourteen to sixteen years old, and consisted of five males and one female. Each of the adolescent participants attended a twelve-week spring semester of the Social Thinking program, and data was collected during the final eight weeks. Five of the six group participants had availed of 'Social

Thinking' program services in the past. For the purposes of anonymity each of the adolescent participants were assigned study codes; A01, A02, A03, A04, A05, and A06. The six parents who participated consisted of four mothers and two fathers. Parent participants were also assigned study codes; A01P, A02P, A03P, A04P, A05P, and A06P. This format was used to pair the parent respondents with their respective adolescent children.

Social Thinking Group Participant Interviews

Following the completion of the spring semester of the 'Social Thinking Group', a semi-structured interview format was used during the one-on-one interviews with each of the adolescent participants (Appendix E). Following review and analysis of the recorded audio and transcribed content, a number of themes were identified, including; 'Friendship / Fitting in', 'Social Opportunities', 'Social Gains: Strategies / Learning & Development', 'Self-Awareness', 'Program Characteristics', and, 'Program Limitations'.

Friendships / Fitting in. Five of six Social Thinking group participants described 'fitting-in' as an important aspect of their experience, or made specific reference to the friendships they had developed as a result of their membership in the group. Participants expressed that the group gave them an opportunity to meet people who were like them, people they could relate to. The sessions were also a safe place to meet new people, and the location at which they were held allowed for socialization with staff as well as fellow

group members. These opinions are shared a number of times through out the interview transcripts, as evidenced by these quotations:

A04 - "I made some friends here, [I] look forward to talking to them"

A05 – "[I'm] meeting new friends"

A02 – "[I'm] interacting more, talking more, connecting easier."

A01 – "I feel great that I've actually made more friends...[I] meet all sorts of nice people."

A01 – "I'd actually have to say like going there and like being with the people there. Not only am I meeting people who like are, have the same quote un quote issues as me, but I'm meeting people who I can relate to and who I can like actually talk to how I would usually talk to people, like how I would want to talk to people, and I just find that like one of the best things ever."

In addition to the feelings of belonging and new friendship development – A03 expressed that the group improved his ability to make friends:

"[I] was pretty much here to learn how to make friends and it has worked, so it's pretty useful because I have a couple of friends now...[I] never had a lot of friends before."

One participant, A01 – made reference to 'fitting in' in a much broader context. While considering the value of participating in the Social Thinking sessions, A01 reported:

“I actually did find the sessions useful in that [they] have a reason behind it. They’re supposed to help people like me sort of fit into society...[with] this entire group I’ve become more sociable because I’ve met more people that I can relate to and it’s opened my mind to like, be sociable with more of society - to get to know more people.”

Social Opportunities. A related theme was also found throughout five of the six adolescent interviews, ‘Social Opportunities’. Information about outings, activities, natural interactions with other group members, and examples of socialization during group sessions were all captured under this thematic heading. ‘Social Opportunities’ are an expected component of social skill interventions, especially group based supports. Regardless, these aspects were notable experiences for the group members – and often their favorite moments of group participation:

A01 – “[I’ve] really enjoyed hang-out – which is sort of like our free time...[it’s] where we can all like socialize and be ourselves, where everybody has fun.”

A06 – “I did enjoy when we ah went on the hike around the lake...[we] just you know talked and that, and then we just threw some Frisbees around.”

A04 – “I’ve become more social, talking to more people, ah talking to a lot more different people that I really didn’t feel comfortable talking to before.”

A02 – “The experience I enjoyed was just hanging around and playing.”

A03 – “Well there’s a lot of laughter. [I] play games [and] interact with other people”.

Social Gains – Strategies / Learning and Development. All of the participants in the Social Thinking Group reported improvements in their social skills, or shared information about specific strategies they had learned throughout the sessions. Some participants shared detailed examples containing specific ‘Social Thinking’, or related terminology, as well as named topics they found helpful. Others also discussed how the things they had learned enabled them to apply social skills in more effective ways. These perspectives also gave some insight into how these individuals may experience the demands of social interactions on a daily basis:

A06 – “[I’ve] been a bit more able to interact with others, you know? And not feeling like their eyes are stabbing into me. So, whenever I was in a conversation with a person that I wasn’t exactly familiar with, I mean you know, like a part of my brain was just completely shut off...sometimes when I would speak to people, you see I would say a thought, but it wouldn’t exactly be the correct one - so, I’ve been able to pick up on that better.”

A05 – “I’ve been using my social skills on a day to day basis wherever I go.”

A02 – “Bit more socializing, um ah interactive, and maybe, maybe I talk a bit more.”

A03 – “Something to use for like when we get angry, there’s like these red zones, or yellow zone, like blue zone. Different zones for how you feel I guess.”

A01 – “Well I find that the specific topics, like the unthinkableables, um I really like the concept of them ‘cus they are sort of like thoughts and issues that we deal with and they are giving them their own character. And they are giving the way of solving it its own like appearance as like a hero that anybody can be, and like I just find it kind of helpful that its, it’s not just a like, it’s not just an issue issue for the person that they are going through. It’s a character they can put the issues with so that they can have strategies for that.”

A04 – “I’ve become more social, talking to more people, ah talking to a lot more different people that I really didn’t feel comfortable talking to before.”

Self-Awareness. This theme was expressed on numerous occasions throughout the interviews. All group participants reported some experience or perspective on the sessions, or on their own social development, that reflected the concept of self-awareness. Some study participants shared information related to their own social deficits, how they have improved, and how they still have more learning to do:

A06 – “I don’t always like to interact with you know, people in general and I; these are skills that I didn’t really pick up on because you know...autism stuff, so.”

A01 – “There are still things that, you know, I still need to work on, but I feel pretty comfortable with what I am good at.”

A02 – “I felt them kinda helpful to ah, control my ah, ah control anger ‘cause sometimes I just take it over the top.”

A04 – “I feel that I, that I was able to recognize it – but this helped me improve on that.”

A03 – “[I] haven’t done the whole [curriculum] yet. Like I don’t know what else she has planned. I need to see before I agree that I have changed.”

A05 – “I [have] become more independent about myself. That helped me change because um before that I was never independent.”

Program Characteristics. During the interview process all of the adolescent participants shared information regarding their favorite aspects of the Social Thinking program. These reports ranged from experiences during activities and outings, to session content, and participant’s feelings about their experiences in the program. Almost all participants reported enjoying the ‘hang-out’ time at the end of the group; although this is a ‘program characteristic’, for the purposes of this research project those reports were labeled under the ‘Social Opportunities’ theme. Some examples of participants’ other reports are as follows:

A03 – “I enjoyed it all...I thought it was really interesting”.

A01 – “I’d say like, I’d change like, if anything, the amount of time I spend here. I would, I really would want to spend more time here. And other than that, that’s pretty much all I would change.”

A06 – “Well, I thought it was nice going out into a you know, kinda out of classroom experience. Ah, because, I don’t know. Its just nice to get out of the classroom sometimes.”

A04 – “I think it’s just the social aspect of group...[it] was always, most time it was always in some way enjoyable.”

A02 – “We almost always have fun.”

A03 – “I enjoyed it all...I thought it was really interesting.”

Program Limitations. Five of six adolescent study participants also shared views on the limitations of the program. Of the concerns reported, only one related to the content of the Social Thinking sessions, or more specifically, the individualization of lessons:

A01 – “I think that the topic I really didn’t enjoy [was] rock brain and all of them, because I find that like, [the] unthinkables that I don’t get as often are kinda like useless to have information on. I feel like, that, that I should only get the information of what I need to know if I encounter them but I don’t need to have an entire semester on it. I feel like that just takes away from the experience of it all”.

Other participant reports included in this theme concerned frequent interruptions during sessions, issues with other group members, and session scheduling. Although these perspectives are not necessarily evaluations of the ‘Social Thinking’ curriculum, or even of

the implementation of the program, they were considered 'Program Limitations' since they affected the experiences of group members:

A05 – “The time - I would change it to the evening.”

A03 – “it was almost like we never got to do what we were supposed to do everybody kept on interrupting.”

A02 – “The group itself can be a bit ah chatty and it might be a bit rude and interrupting.”

A06 – “I only had one complaint last semester but it was mainly just, [another group member] - he, he kept interrupting.

Social Thinking Participant Journals

Group participants were asked to complete reflective journals (Appendix D) at the end of each group session. The journals were completed by the group members independently or with the Social Thinking Group Coordinator. The group leader only assisted when encouragement to complete the journal was needed, or when a scribe was required or preferred. Due to a lack of completion of some journals by participants – the data collected via this method was incomplete. Regardless, even without per-session reflections across the entirety of the semester, additional perspectives were collected through the journals.

Journal responses were organized by question and coded by theme across all adolescent group participants (see Table 1). The thematic contents found throughout the journal responses were similar to the information shared by participants during the face to face interviews; strengthening a number of the themes used to organize the interview data.

When asked if they enjoyed being part of the group all six participants unanimously reported 'yes', and four of the six participants reported feelings of belonging and referenced opportunities to meet new people and make friends; similar to the 'Friendship / Fitting in' theme drawn from the interviews. The comfort level of group participants was apparent in these direct quotes:

"It's where I can be myself."

"I can relate to [other group members]."

And direct references were made to friendships:

"I get to hangout with my friends."

"I have friends in this group."

'Social Opportunities' were also referenced in the journals of many group members. When asked to report their favorite activities all of the adolescent participants shared information about group activities, outings, or 'hangout' time in general:

"Hangout because we all get to relax and talk about things."

“Feeding the ducks, going to the music garden.”

Although not all comments related to the ‘hangout’ time provided specific reference to interacting with others – two group members shared specifics about social interaction:

“Sitting around the table and talking to everyone in group.”

“Playing the board game with my friends.”

“Talking with [my group member] because I get to learn new things when I talk to [them].”

When asked to report their favorite activity one group member shared an experience that was very unique from the rest of the respondents; for the purposes of this research project it was classified under a theme of ‘Social Anxiety’. In one of the journals this group member said their favorite part of group that day was:

“Spending time by myself because I don’t like talking to people because I am afraid of being judged.”

It is also notable that this group member reported feelings of discomfort when asked, ‘How did you feel in group today?’ Aside from a single report of feeling ‘tired’ all other participants shared positive emotions, for example:

“Really good because I had a good morning and I was in a good mood.”

“Good and happy”

This participant's experiences were very different, and the journals reported feelings of sadness and awkwardness:

"At one point like I was going to cry because one of the [group members] were mean / rude to me".

"A bit awkward"

As the weeks progressed however, the experiences of this group member improved; the journal content reflected an increase in comfort and overall mood in the Social Thinking group:

"More comfortable today because one of the group members was nicer to me."

"Good!"

The journals also made direct reference to 'Social Gains: Strategies / Learning & Development'. When asked if there was a specific topic they found helpful or interesting every group member reported a specific resource, using 'Social Thinking' or related terminology. 'Superflex' (Madrigal, & Winner, 2008) and 'The Zones of Regulation' (Kuypers, 2011) were the two resources frequently mentioned in the journals. Some contained direct reference to the 'Unthinkable' characters from the Superflex curriculum, or information about how to 'handle' the different emotional states defined within 'The Zones of Regulation':

"The strategies for Energy Harey were interesting."

“How to handle the unthinkable.”

“Today was helpful because I now know what to do in the different zones.”

In addition to this, group members were also asked; ‘what did you learn today?’ In response to this question all group members again referenced the ‘Superflex’ (Madrigal, & Winner, 2008) curriculum, and the ‘Zones of Regulation’ (Kuypers, 2011). Additionally, a number of social group participants provided specifics about various strategies:

“Different tools to calm myself down. Example, in the blue zone I can try to rest or meditate.”

“I learned about the tools I can use in each one, example: if mad / angry and I need to hit, I can use a punching bag.”

Some journals also contained responses of ‘no’ to this question; but every participant that did so reported specific concepts as useful on other days. In addition, these responses were usually explained by the group members. Two participants reported that they had already learned the concepts and another shared that they did not learn anything new because they were on an outing:

“Not really. I already knew most of the things we did today.”

“No, we only hung out at mini golf.”

Other related information was shared when participants were asked if they liked being part of the group. Two members specifically mentioned the opportunity to learn new things as a benefit of participating in the Social Thinking program:

“I like coming to learn new things that will help me.”

Table 1

Group Participants Per Question Journal Responses – Key Word Coded

Key Word Coding	Participant Statements					
	<i>Question: What did you learn today?</i>					
	<i>A01</i>	<i>A02</i>	<i>A03</i>	<i>A04</i>	<i>A05</i>	<i>A06</i>
Specific Concepts / Resources	<p>I learned that I don't get DOF that often.</p> <p>We learned about Energy Harey and Wasfunnyonce and strategies to defeat them.</p>	<p>What the unthinkables can do.</p> <p>What the unthinkables can do and how to defeat them.</p>	<p>When it's ok to be in each zone and how I feel in each zone.</p> <p>Different tools to calm myself down. Example, In the blue zone I can try to rest or meditate.</p> <p>I learned about 'inner coach' and 'inner critic'.</p>	<p>Just re-learned when to be in the zones.</p> <p>How to deal with the different zones.</p>	<p>I learned that its ok to feel in each zone at some point, and that there are many different feelings and emotions in each zone. I learned about tools I can use in each zone (example: If mad / angry and I need to hit, I can use a punching bag).</p>	<p>When to tell when you should be in a zone.</p> <p>What to do in a zone of (not legible).</p>
Social Skills					<p>I learned that we have to use specific social skills when we play board games. For example; Think about others and their feelings, work together, to listen & refrain from blurting out.</p>	<p>About what others feel about my opinions.</p>
Negative Reports (Nothing)			<p>Nothing really.</p>		<p>Not much really because we went for a walk.</p>	

Key Word Coding	<i>Question: Was there a topic you found helpful or interesting?</i>					
	<i>A01</i>	<i>A02</i>	<i>A03</i>	<i>A04</i>	<i>A05</i>	<i>A06</i>
Specific Concepts / Resources	The strategies for Energy Harey were interesting.	The information on the unthinkables. How to handle the unthinkables.	When its ok to feel certain ways in certain zones. Learning about what's 'ok' to do in each zone. Learning about inner coach and inner critic was interesting.	Today was helpful because I now know what to do in the different zones.	Learning about when it's expected to be in each zone.	How to handle certain zones. The topic today told me how to handle each zone. No.
Positive (General)					The discussion we had about the expectations was helpful because it helped me understand.	Today's topic was good.
Negative Reports (No)	Not really. I already knew most of the things we did today.		No, we only hung out at mini golf.	No because we have already learned this.		No.
Key Word Coding	<i>Question: Was there a topic you did not find helpful or interesting? Explain</i>					
	<i>A01</i>	<i>A02</i>	<i>A03</i>	<i>A04</i>	<i>A05</i>	<i>A06</i>
No (with specifics)		Not really.	No. No, because a lot of it was new to me and I found it helpful and interesting.	No.	No. No, I found it all interesting. No, it was all interesting.	No. No, today's topic was good.

			No, because we mostly talked about inner coach and inner critic.			
Yes (Disinterest / Irrelevant to participant)	Topic Twistermister wasn't that interesting. WFW was not that interesting because I don't use humor that often.					
Key Word Coding	Question: Tell me about your favorite activity.					
	A01	A02	A03	A04	A05	A06
Hangout / Activities	Hangout. Hangout because we all get to relax and talk about things.	Hangout.	Doing puzzles during hangout time. Puzzles. Seeing the baby ducklings.	Hangout in general. Hangout.	Feeding the ducks, going to the music garden.	I like drawing. I play card games.
Social Interaction			Sitting around the table and talking to everyone in group.		Talking with my friends. Talking with my group member (name) because I get to learn new things when I talk to (name). She is very interesting! Playing the board game with my friends.	

Social Anxiety			Spending time by myself because I don't like talking to people because I am afraid of being judged.			
Key Word Coding	Question: Do you like being part of this group? Why / why not?					
	A01	A02	A03	A04	A05	A06
Yes <i>*(all reported yes in each journal)</i>	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.
Feelings of Belonging	It's where I can be myself.	I can relate to them.			Before this group I was lonely and I had no friends.	Everyone is nice.
Learning Opportunity			I like coming to learn new things that will help me.		I get to learn and try new things.	
Friendship / Meeting People	I enjoy being with the people.		I get to hangout with my friends. I get to meet new people (participants and volunteers.	I have friends in this group. Yes, because I have friends.	I get to hangout with my friends.	
Key Word Coding	Question: How did you feel in group today?					
	A01	A02	A03	A04	A05	A06
Good	Pretty Good.	Good.	More comfortable today because one of the group	In the green zone. Good.	I felt good. Really good because I had a good	Good and happy. Good.

	I felt pretty good, but a little tired.		members was nicer to me. Good!		morning and I was in a good mood. Good!	
Discomfort			At one point like I was going to cry because one of the boys were mean/rude to me. I felt pretty good but a little awkward. A bit awkward.			

Parental Interviews

Following the participation of their children in the spring semester of the 'Social Thinking Group', parents were also interviewed using a semi-structured one-on-one interview format (Appendix F). Following review and analysis of the recorded audio and transcribed content, a number of themes were identified, including; 'Social Gains: Friendships / Fitting in / Socializing', 'Generalization', 'Program Expansion', 'Past Involvement', 'Program Characteristics', 'Program Limitations', and 'Parental Uncertainty'.

Social Gains: Friendships / Fitting in / Socializing. All parent respondents reported the social gains they perceived as a benefit of their children's participation in the 'Social Thinking' program at the Autism Society of Newfoundland and Labrador. The information shared referenced friendships, fitting in, and opportunities for socialization; each of these elements was considered part of an overarching 'Social Gains' theme. Some parents discussed the presence of these opportunities in the group, and highlighted the similarities between group members, for example:

A02P - "[He's] in a group with other children who obviously have similar needs to him. They get one another – I think that's a real positive."

A04P - "Up until this program, A04 thought he was the only person in the world with Aspergers. So then he got to meet some other people that – as he says, are socially awkward like him, and that's ok."

A03P - "Ok, so benefits yes – maybe not um directly related to what he is actually learning, but benefits to him because he has no friends, so this is a way for him to socially interact with other people."

In addition to this, some parents shared examples of friendship development extending from group participation:

A01P - "So, [A01] enjoys the group. He enjoys the ah comradery with the other kids, and um, he really ah he looks forward to coming here and he has developed some ah relationships outside of the group; outside of the center we'll say, visits

with one of the boys on a regular basis so, he's made a friend in other words. Not easy for him to do that."

Parents also referenced the importance of the group in relation to the development of the skills required to make friends, for example:

A06P - "I think its [important] – especially for [A06] who doesn't, I guess easily make friends."

Generalization. An improvement in the social functioning of their children, or examples of increased social interaction, were reported by five out of the six parent interviewees. Some parents shared that their child practices what they have learned in group, and they see it applied in the community. The stories shared by parents ranged from general improvements in socialization to specific references to particular skills or real life examples of their application, such as:

A05P - "People do say, like her grandparents and other people do say that she's doing better from a social perspective with like personal space and not trying to interrupt – stuff like that."

A04P - "He went back in and he held open the door for a woman in a wheelchair. Helped her come out, opened up the second door, and then pushed her out so somebody could help her get into a cab. I bawled in the car. I've never seen him do anything like that before, cause he doesn't notice other people."

A03P - "I've noticed some changes; umm being able to listen more, and not interrupting as much maybe, more eye contact, subtle things but, for me they're subtle, but for other people I guess their more if they haven't seen him for a long time."

Parents also shared that their children have changed as a result of their participation in the social thinking program; for example:

A01P - "He's not fading into the background, no he isn't. He a, actually there's times he'll, he'll initiate things as I said, which is good to see; cause the [A01] before and the [A01] now are two different [A01's] – in social settings anyway."

A06P - "I definitely think there's a bit more awareness around, around his behaviour, and things now, for sure."

A04P - "I see huge, huge improvements in [A04]."

A02P - "[His] interactions I think are much ah...much more fruitful for lack of a better word than prior to social thinking."

It is notable that not all improvements, or generalization of skills, were attributed to the lessons offered in the Social Thinking program. Specific examples of these perspectives will be shared in the overview of the 'Parental Uncertainty' theme below.

Program Expansion. During the interviews four of six parents also shared their opinions on the possible expansion of the program. These thoughts were largely based in

parental concern for the continued learning of their children. Parents shared some unease regarding the ability of the program to meet the developing needs of their children as they age:

A01P - “[When] he gets older, you know, um; how, how is this particular program going to evolve for him? Um, you know I’m not, I’m not the type just to ah worry about things – cross bridges as you come to them let’s say, but ah I think it’s important for [older] kids who are going out into the world you know to have a place, or to have a setting where they’re comfortable and can learn new things, so, I think that’s important.”

Parents also shared perspectives with specific suggestions that could improve service delivery. These ideas included scheduling, mixed gender groups, frequency changes, and additional community application, for example:

A04P - “[They] may have to take them to other places so that the things that they learn in the classroom they can practice in the real world.”

“[He’s] still a little awkward around girls... but it would be a little less awkward if they had more opportunity during the social thinking class to come together.”

A03P - “I don’t know if there was more of a one-on-one occasional time that they could take one person, and that’s probably impossible, out in society getting them to let’s say, buy something at a store, use their debit card, teach them life skills like that. I think at this age it’s really important.”

“[There] has to something else – there has to be some kind of more, maybe the second session could be more of just um socializing, having a games night or something and not necessarily having it to be a structured event.”

One parent also mentioned increased parental involvement to aid in the development of social skills outside of the group setting:

A05P - “[An] information session to the parents possibly to give us ideas on how, how to be using these techniques and stuff like that – because I think it’s important ah that we need to be doing what they are doing in group right, yeah, to be more effective.”

Past Involvement. This theme was assigned to references of past involvement in the Social Thinking program. Knowledge of participation in the group prior to the spring semester in question was a consideration in understanding the context of parent’s experiences and opinions. Five of the six parental participants reported their son or daughter had been group members in the past. All past involvement reported was extensive – ranging from two additional semesters, to years of participation. For example:

A01P - “I’d say this is probably the 4th or 5th one [for] sure. He’s been, it’s been a couple years – the same group or the same core group have been together for a couple years now.”

A04P - “My gosh, this is probably his...1,2,3...probably his 7th session he is going into.”

Program Characteristics. During the interviews parents shared their opinions on the Social Thinking Program itself – its curriculum, design, and delivery. All comments considered ‘likes’, ‘pros’ or ‘benefits’ of the program were contained within the theme ‘Program Characteristics’.

A number of parents mentioned the flexibility of the program as something they valued, and this made accessing the service an easier process, for example:

A06P - “[You] know a weeknight worked better for us, so you know the flexibility of the program was very very good for us.”

The delivery of the service was also seen as convenient. The location was considered suitable by parent participants, and the times offered were generally referred to positively. In addition, the curriculum was seen as a strength of the program, and a number of parents praised the social thinking program coordinator; specifically, her approach with the group members:

A01P - “[They] need a little push in the right direction. I think [the Program Coordinator] is great for that, and um, yeah I think they all really enjoy it – that’s the vibe that I get.”

A03P - “They do follow a curriculum so I feel that’s a good thing, and, so I think that’s a very strong point.”

A04P - “The content is great, cause right now they are doing the, the zones of regulation which is great.”

A05P - “[Having the Social Thinking Coordinator], I guess the experts ah with, I guess using evidence based approach on what’s appropriate social behaviour and getting it down to their level. Yeah, I have total confidence in what they’re doing is good, yeah, and they know a lot more than even that I do as a parent right, with regards to the approaches.”

When referring to their children’s experiences in the group almost all parents shared positive feelings, and expressed that they valued what the group had to offer, for example:

A04P - “Anybody who has a kid with High Functioning Autism or Aspergers I tell them, go to social thinking, go to social thinking.”

A02P - “[When] it’s time to go to social thinking, or squash, or baseball – there’s no fight to get him off the computer. Like if I need [A02] to get off his laptop um to eat supper I can ask him nine thousand and seventy-five times...but when its time to go to social thinking he’s...he’s ready and interested and excited to go.”

One parent also made comments recognizing the group as a support system:

A01P - “[We] were floating around in, in an ocean in the darkness. We didn’t know what to do or where [to go] – we came here and it was like, yeah.”

Program Limitations. Parents also shared some experiences and opinions that were defined under a theme of program limitations. This theme was used to capture

dislikes, concerns, and any discussion regarding a potential limitation of the Social Thinking program.

A number of comments reflected aspects of the group that their children did not enjoy; a common occurring complaint was frequent interruption by other group members during discussions and activities. Clashes of personality with other group members were also reported:

A03P - “[There] are days where he wants to quit because there are moments with certain people in the class that he clashes with, but then when he comes back it seems like everything is forgotten and he can move on.”

A04P - “[He] got really mad with his friend, and said you’re not being fair to [the Program Coordinator], she’s here to teach us social thinking, we’re supposed to work, your supposed to suck it up and do it, and then we can play.”

A06P - “[He] did mention to me there was one kid in particular who kept – and not just interrupting, but interrupting to the point of just aggravating interrupting.”

Parents also wanted more information about the program; their comments highlighted a desire to know more about the curriculum, and about group happenings in general. They also referenced a decrease in the amount of resources being sent home for review, in comparison to previous semesters:

A05P - “Just getting a little more input, and I think they are getting better, more input on what’s been happening in the group.”

A03P - "I wish I could be a fly on the wall to see what exactly happens in class... [I] don't see stuff coming home as much, cause there was a time where he'd bring home a binder and I could see like what they are doing – but I haven't seen that – its been awhile. But I'm assuming everything is on point and they're continuing to, you know, follow through with that."

Additionally, a number of parent interviewees shared their desire for more 'Social Thinking' sessions, both in frequency and duration. One parent mentioned a reduction in session length was frustrating for their child, while other parents discussed a need for an increased number of sessions. Although a demand of this nature may speak to the usefulness of the program for some parents, an inability to access what they deem an appropriate amount was considered a limitation. One parent's comments also acknowledged the difficulty of scheduling around the group, especially if sessions are too short in duration. Although a demand for more sessions is present, an awareness of scheduling difficulties for other parents whose children attend a variety of activities was as well:

A01P - "I know it's once a week on a Saturday, [it] might be difficult for people to even have it twice a week but that would be I think, I think most if not all of the parents would probably want [that]; if it was twice a week it would be awesome."

A03P - "I would like to see more sessions a week. I think that once a week is not enough."

A04P - “[A04] liked it better when it was like an hour and a half, two hours. I don’t know how the rest of the kiddos felt, but it was difficult as a parent too because it wasn’t enough time to go home, right.”

A02P - “[Although] I think it would be valuable to have it more frequently – it’s difficult to get children to all their activities, ya know, on top of their school work and, and so on.”

Parental Uncertainty. Five of six parents reported opinions about the group, or shared experiences that could be classified as an expression of ‘uncertainty’.

A number of parents were hesitant to attribute the improvement of their children’s social skill to the Social Thinking program, even when increased social interactions or social successes were reported. In addition, some parents had difficulty identifying measurable benefits from their child’s participation in the group:

A02P - “I’m not sure what [changes are] attributed to social thinking and what’s not.”

A03P - “[Sometimes] things are not always evident because they don’t happen over night and day, so someone who comes to me and says, my gosh [A03] has changed so much, then I have to think back, ‘he has?’ Cause to me it feels like he is the same.”

A05P - “Umm, I’m sure there’s some benefits but it’s really hard to tell.”

A06P - “I don’t know if its related more to the course in general or just you know overall cause its kinda, kind of hard to tell.”

One parent specifically discussed their concerns for the future. A number of these comments were considered within the ‘Program Expansion’ theme – but the worry about their child’s needs being met into adulthood required further thematic definition:

A01P - “What is socially acceptable? In a work environment? In the high-school environment? All of these things, so...[I] don’t know how easy it will be when they’re eighteen and nineteen to teach them because they’re still going to need those skills. They’ll, they’ll get them here; they’ll get the building blocks we’ll say here, but um, I don’t know [if] everything is all encompassing at fourteen as it is at nineteen. I don’t know, I don’t know. [I], can’t say worried – but It concerns me, when that particular phase of this life comes [what] happens then?”

Parental Interview / Questionnaire

Parents were also asked to complete a pre-social thinking session interview / questionnaire (Appendix C). Using these forms parents ranked the social thinking concepts to be covered during the program by importance, and answered three questions related to the program. Parents rankings of the social thinking concepts can be found in Table 2.

Table 2

Parental Rankings of Social Thinking Concepts by Importance.

<i>Social Thinking Concept</i>	<i>Participant Rankings (1-6)</i>					
	<i>A01P</i>	<i>A02P</i>	<i>A03P</i>	<i>A04P</i>	<i>A05P</i>	<i>A06P</i>
Appropriate Social Interactions	1	1	1	4	2	1
Conversation Building	2	2	3	2	4	2
Problem Solving	6	5	4	6	3	6
Perspective Taking	5	4	5	1	1	3
Emotional Understanding	4	3	2	3	5	4
Emotional identification	3	6	6	5	6	5

(1 – the skill needing the most improvement, 6 – the least)

As seen in Table 2, four of six parent respondents ranked ‘Appropriate Social Interactions’ as the most important concept for their children; while two parents believed ‘Perspective Taking’ to be the most important. Since each individual concept offered through the program may be considered building blocks towards ‘Appropriate Social Interaction’ – parent rankings were not surprising.

Parental participants also answered three questions related to their child’s involvement with the Social Thinking program, including; what are your four main priorities for your son / daughter’s social development? What do you hope your son / daughter will gain from participating in this social group? Has your son / daughter participated in social groups or social improvement interventions in the past? If so, what

was the format and when did your son / daughter attend? All parent responses to these questions can be found in Table 3.

A number of the parent's written responses to these questions were related to the themes used to define their interview responses. This enabled further triangulation of the data, and strengthened the thematic analysis applied to the interview transcripts. Five of six parents identified that their child had participated in the social thinking program, or other 'peer play' programs. The same reports were made during the one-on-one interviews, and organized under a theme of 'Past Involvement'.

All parents identified a desire for their children to have opportunities to socialize, to improve their ability to interact with others successfully, and to make friends. Similar reports were made during the face to face interviews. A theme of 'Social Gains: Friendships / Fitting in / Socializing' was used to define these perspectives, which would apply to a number of written responses shared by the parents, for example;

"I hope (A06) learns to interact with his peers and is able to develop friendships with his peers."

Two of six parents also reported making friends and building friendships as one of the four main priorities for their child. This was also reflected in the 'Social Gains' theme.

Table 3

Pre-Session Parental Interview Question Responses

Participant	Question & Responses
	<p>Question 1:</p> <p><i>What are your four main priorities for your son / daughter's social development?</i></p>
A01P	<ul style="list-style-type: none"> a. Understanding of appropriate social interaction b. Understanding and responding to social cues c. Appropriate conversation d. Learning to make friends
A02P	<ul style="list-style-type: none"> a. Understanding social norms (e. understanding 'grey' areas) b. Engaging in reciprocal conversation / interactions c. Avoidance of reacting impulsively d. Practicing social appropriateness
A03P	<ul style="list-style-type: none"> a. Appropriate conversations with his peers b. Understanding body language c. Understanding interactions with difference age groups (young vs. old) d. Being able to find and maintain a part-time job
A04P	<ul style="list-style-type: none"> a. Reciprocal conversation instead of talking AT people b. Understanding other peoples' perspectives c. To learn to 'chat' with people d. Identify when people are no longer interested in what you are talking about
A05P	<ul style="list-style-type: none"> a. Perspective taking b. Appropriate social interactions c. Problem solving d. Conversation Building
A06P	<ul style="list-style-type: none"> a. Building friendships b. Social interaction c. Social conversation d. Appropriate behaviour

Participant	<p align="center">Question 2:</p> <p align="center"><i>What do you hope your son / daughter will gain from participation in this social group?</i></p>
A01P	Same as above priorities.
A02P	Improvement in social skills as indicated in question #1. Also, [Social Thinking] provides social time under supervision.
A03P	I would like for him to be able to make friends and keep them long term.
A04P	He had already made so many gains from previous Social Thinking Groups, but we hope he learns to understand and use his skills to be less awkward in social situations.
A05P	To build on appropriate social cues and be able to interact with others appropriately.
A06P	I hope (A06) learns to interact with his peers and is able to develop friendships with his peers.
Participant	<p align="center">Question 3:</p> <p align="center"><i>Has your son / daughter participated in social groups or social improvement interventions in the past? If so, what was the format and when did your son / daughter attend?</i></p>
A01P	He has for past 2 years. Superflex format is used. Attended from 2013 – present, not positive about dates though.
A02P	He has been attending social thinking @ the ASNL for at least a couple of years with [The Social Thinking Program Coordinator].
A03P	He participated in ‘kids club’ program. They had free play with their peers and had supervision. Someone would guide them through challenging situations.
A04P	Social Thinking, this is his 4 th or 5 th session.
A05P	Yes, with the Autism Center.
A06P	No.

Chapter 5: Discussion and Conclusions

Summary of Major Results

This study examined the experiences and perceptions of adolescents, and their parents, who availed of the 'Social Thinking' program offered by the Autism Society of Newfoundland and Labrador. The experiences and opinions shared by the study participants revealed a variety of themes and provided a deeper understanding of their priorities. Reoccurring themes between the group members and their parents highlighted positive program characteristics, opportunities for social interaction, the importance of friendship and fitting in, and the development of social skills. Many participant comments contained references to these topics, and identified the effectiveness of the 'Social Thinking' group offered by ASNL in addressing these needs. Program limitations and program expansion were also themes present in participant reports, suggesting a need for more supports in addition to the current services offered by ASNL; as well as identifying a gap in services for individuals with a diagnosis of High Functioning ASD.

Parents and group member's opinions on the social thinking program revealed a number of positive program characteristics. Parents valued the flexibility of time-slots offered for the group sessions and felt that accessing the service was convenient. They also believed that the curriculum based on 'Social Thinking' resources was a strength of the program, and many felt that the social thinking program coordinator was a great support for their child.

The adolescents participating in the Social Thinking program offered by ASNL made broader comments related to the positive aspects of the group. All members referenced the free time at the end of group sessions as one of their favorite aspects since it provided the opportunity to interact with the other participants in a fun and laid back way. The majority of group members also commented on the content of the sessions, reporting that they were interested and engaged in the curriculum, as well as the social aspects being a member of the group provided. In addition, multiple program participants reported that their social skills had improved as a result of their involvement in the 'Social Thinking' sessions. Similar findings were reported by Ware and Ort (2012), where their social skills group participants believed their involvement in a similar intervention improved their social functioning, and that the benefits were transferable to natural settings. The opinions of the group participants in this study have also been reinforced by past research which purports that social skills groups help to improve the social skills and social functioning of children (MacKay et. al., 2007; Rose & Anketell, 2009; Sim, Whiteside, Dittner, & Mellon, 2006).

Multiple participants shared examples of social gains and social opportunities; and parents reported a number of situations where the generalization of topics and skills by their children was observed. Past studies have also found parent-reported improvements in their children's generalization of learned social skills outside of a social skills treatment group (Tse et al., 2007). Although the efficacy of the 'Social Thinking' program cannot be supported by the design of this particular research project, parents and group members

do believe participation in this group has resulted in improved social functioning and social awareness. The findings of Mackay et al. (2007) support the advancement of social skills following participation in a social skills focused group work intervention. Petrina et al. (2015), also found evidence that benefits, similar to those reported by parents in this study, have been achieved through the application of 'Social Thinking'. They found that group members "have increased 'positive' or expected social behaviors as a result of learning about their own social behaviours and the impact on others' thoughts about them" (Petrina et al., 2015, p.587). As reported by some parent participants – it is difficult to determine to what extent the general advancement in social skills can be attributed to the program, however, the perceived positives of participation, and the potential for social development were a reoccurring subject of conversation during the interview process. While examining a similar group work intervention MacKay et al. (2007) found parallel results. Twenty-eight parents felt that the group experience had been helpful for their children, but in two cases no perceived changes in social skills were reported; however, the groups were still considered helpful because they had 'been an enjoyable experience' (MacKay et al., 2007, p.286).

'Friendship' and 'fitting-in' were major topics for group members and their parents; highlighting the importance of these needs from the perspectives of the study participants. This reflects past findings by Petrina et al. (2015); who found parents rated the importance of friendship closely to social and emotional capacity. Relationship development is a multifaceted process, often requiring mindful navigation through

evolving social situations. The core deficits of Autism Spectrum Disorders, including limitations in communication and social interaction, can gravely impact the advancement of relationships, and the growth of true friendships for individuals with this diagnosis. Participation in the 'Social Thinking' program provided members with socialization opportunities with like individuals, close in age, with similar needs and often similar interests. This perspective was also shared in a related study by Macdonald, Chowdhury, Dabney, Wolpert, and Stein (2003); the parent participants from this study reported that their children found "meeting other children with similar problems very helpful, [one] child saw that she was not alone" (p.48). Friendships developed for the majority of group members as a result of participation in the ASNL program. Macdonald et al. (2003), also found that a number of the children in their study reported making friends in a social skills group. Having an environment where members could feel comfortable, like they 'fit-in', was a great contributor to the development of these relationships, and may lead to increased confidence and willingness to socialize with others in the future. Tse et al. (2007) also found that "social skills groups can be an effective way of helping verbal adolescents with autism spectrum disorders to develop comfort and confidence in social interactions" (p.1965).

Program Implications and Recommendations

Notable comments were also made regarding the limitations of the 'Social Thinking' program. Gathering this information from the individuals most impacted by the delivery of this service allowed for a unique understanding of their needs, and their satisfaction with the current implementation of the intervention. Considering the concerns and suggestions of the study participants may enable an improvement in the group offered by ASNL – and help to shape the development of like services in the future.

Some specific limitations referenced by group participants included; a lack of individualization, frequent interruptions during sessions by other members, and the time that groups were offered. The individualization process and the pairing of group members within the program run by ASNL may benefit from an increased assessment process. This would not only allow for an improved understanding of participants needs – but it would also allow for the development of programs that cater more specifically to the social deficits of each individual member. This in turn may promote pairing of members with needs of closer similarity allowing for group based sessions focusing on topics relevant to every member. A further benefit of regular assessment would be the potential for social skill improvement measurement over the course of participation. In addition, situations that upset group dynamics, such as frequent interruption, could be highlighted as opportunities for interpersonal learning. Since individuals with the diagnosis often struggle with social cues they may not perceive how other group members are interpreting their actions – processing these situations in a respectful way may enable

group members to reflect on their behaviour and improve self-awareness. Ware and Ohrt (2012) also suggest that group leaders should provide opportunities for members to share their perspectives in group; since group participants, “may benefit from engaging in healthy forms of positive and constructive feedback exchange” (p.148).

Parents also shared some comments related to the limitations of the program, as well as a number of statements considered within the theme of ‘parental uncertainty’. A large factor contributing to this idea was a hesitancy to ascribe social improvements to their son or daughter’s participation in the social thinking group. This is a concern that may also be addressed, at least in part, by assessment. The use of an assessment tool on a semester or bi-semester basis would allow for improvement tracking. Pairing this with per-semester member reports would allow for a clarification of the gains made during the course of membership in the ‘Social Thinking’ program, as well as support the development of clear goals for the further social development of each participant.

Other possible improvements based on the perspectives of parents would include; a greater level of communication with parents regarding the curriculum, session content, parental involvement via ‘home-work’, and an increase in the number and length of social thinking sessions. Sharing resources and lesson plans with the families of group members may support further generalization of the skills and concepts taught during the ‘Social Thinking’ sessions – as well as give parents a better understanding of the program goals and ‘Social Thinking’ vocabulary. Research has also shown that parent support groups associated to social skills interventions result in a reduction in feelings of isolation and

alienation, as well as give parents strategies for managing and improving their child's social behaviour (Macdonald et al., 2003). Increasing the length and number of sessions offered by the Autism Society of Newfoundland and Labrador is an area of improvement contingent on funding, resources, staffing, and demand. This is a complex issue that speaks to the need for further programs – in addition to an expansion in the quantity and scope of the programs they currently provide.

The majority of parental participants also commented on the requirement for further program expansion and development. Their remarks focused on the need for services that would support the continued social development of their children as they age, and guidance as they enter new transition periods in their lives. The fear and anxiety surrounding transitions for this population has been documented by Cheak-Zamora et al. (2015). In their research they found that both caregivers and their young adult children with ASD experience a great deal of stress and anxiety related to important transitions, and 'much is needed to prepare youth with ASD and their caregivers for the transition to adulthood' (Cheak-Zamora et al., 2015, p.557). Additionally, one parent mentioned that education sessions may be effective in developing parental teaching techniques for use with their children. The concerns and suggestions shared by parents regarding the evolution of services for their kids points to an existing gap in the current supports offered in Newfoundland and Labrador. This gap is not one that falls solely on the shoulders of the Autism Society, but it speaks to a need for broader services within the community, education, and health care systems. Currently ASNL stands alone in offering group based

Social Thinking programming, but as seen in the comments and concerns of parents, more is required.

Limitations

A main limitation of this study was related to a method of data collection used with the adolescent group participants. Although the one-on-one interviews revealed a great amount of information about the experiences of the group members; the weekly journals were less useful. A number of journals were omitted as a result of missed sessions, and some journal entries were not legible. Legibility issues may be related to the motor planning difficulties that some individuals with a diagnosis of HFA experience. As identified by Breivik and Hemmingsson (2013), hand-writing difficulties can affect academic performance; and the demand of writing tasks can result in resistance to these types of activities. The journals were also delivered during the 'hang-out' or 'free time' at the end of a group session. This timing may have contributed towards possible resistance by participants to complete the journals, and may also account for the limited information found in a number of journal entries (both participant written, and those scribed by the group coordinator). Considering these factors – the reflective journals were limited in both their design and implementation.

The time-frame of the study could also be considered a limitation. The spring semester of the Social Thinking group ran from April 14th to June 27th, and all the data

collected was related to the experiences of the group members participating in the program during this period. Although the majority of participants did experience the Social Thinking program in the past, which certainly influenced their responses during this study - a longitudinal study would have provided deeper and more varied data. In addition, the effectiveness of the intervention may also have been considered further via a sustained research project.

The generalizability of the findings of this research project are also limited. This is a result of the small number of participants, as well as the specificity of the demographic from which the participants were drawn. This study focused solely on the 'Social Thinking' program offered by the Autism Society of Newfoundland and Labrador. Although similarities will exist in the implementation of the curriculum, and the experiences of the group members availing of the service elsewhere - the results of this study are specific to the perceptions and culture of the residents of Newfoundland and Labrador, and those within the vicinity of St. John's who have the ability to avail of the program.

Another consideration is the presence of a dual-diagnosis within the social group participants. This information was not requested during the initial recruitment phases, and was unknown to the primary researcher until it was disclosed during the parental interviews. Although the individual was diagnosed with ASD; this study participant was also diagnosed with ADHD. The second diagnosis was also treated through the use of medication. The group was still a relevant intervention based on this individual's presenting social concerns, and their opinions on the group are still a valuable component

of this research project; but this factor was not considered in the interpretation of the data, or during the development of the participant sample. Co-morbidity, and its influence on the experiences of social group members may be an area for future consideration.

Recommendations for Future Research

More studies are required not only to garner a deeper understanding of the experiences and perspectives of individuals availing of 'Social Thinking' programs – but also to evaluate the effectiveness of 'Social Thinking' as an intervention. Future studies may consider the perspectives of parents and group members for a longer period, to determine if satisfaction or engagement in the service changes over time. Additionally, a longer term study may also provide more information related to how the possible effects of participation in the program are expressed in the social skills exhibited by participants. The use of multiple data sources, including both qualitative and quantitative methods, would provide a fuller understanding of the perspectives of stakeholders availing of the program. Quantitative methods may also allow for future research to determine the efficacy of 'Social Thinking' with regards to statistical significance. The generalization of social skills learned during group sessions was a topic discussed by the parent participants in this study. Further consideration of the possible transference of new skills, to new environments, with new people, would also be a worthwhile area of inquiry. This could include an assessment of groups that contain individuals without an ASD diagnosis, in

addition to the core participant group. An evaluation of the different social learning experiences and potential for further skill generalization in this context would be valuable endeavor.

A consideration of the variables effecting the delivery of the 'Social Thinking' curriculums may contribute to an understanding of 'best practice' in relation to the implementation of these resources. Aspects such as session length, number of group members, number of group coordinators, the frequency of sessions, and the level of parental involvement may all influence the effectiveness of the program, as well as the perspectives of those availing of the services. The basis of group formation may also be a factor in determining the most effective social group settings; aspects such as the shared interests of members, and the gender ratio of the group may influence participant's experiences. Future research could manipulate these variables to determine which delivery models result in the greatest gains, and highest level of satisfaction with the program.

Conclusions

'Social Thinking' group work has its benefits for teens with a diagnosis of High Functioning Autism Spectrum Disorder. Adolescent members of the Social Thinking group reported advances in their social skills, including improved conversation skills, the ability to recognize the expected behaviors of social situations, as well as increased comfort and

confidence during social interactions. A number of group participants also reported they had developed new friendships as a result of the program, both within their specific groups, and within broader social contexts. The adolescent participants also gained new strategies for use in social situations, and directly referenced content from the Social Thinking curriculums and related resources. The social opportunities provided by participating in the program were also seen as a benefit, enabling the group members to spend time with others in situations where they could be themselves – and feel like they truly ‘fit-in’.

Parents of group members also perceived a variety of benefits resultant from their children’s participation in the program. Many comments acknowledged the similarities between group members as a positive. This provided some sense of ‘normalization’, and an opportunity for social interactions with like individuals with similar strengths and needs. A number of parents also reported that their children had developed friendships through participating in the Social Thinking program. Parents also noted improvements in social skills, and the generalized application of the skills and strategies learned during group sessions. These advances included an increased awareness of others, better recognition of personal space, improved eye contact, and more successes in social interaction. As discussed, not all advances in social functioning were attributed to participation in the Social Thinking program, but parents largely believed their son or daughter’s participation in the group sessions to be a positive factor in their lives.

Secondary to understanding the experiences of the study participants, and their perceptions on the benefit of the Social Thinking program, was a target of considering their perspectives on its strengths and weaknesses. Group members and their parents shared a number of perspectives on the limitations of the program, which could be considered for future development and expansion of the service offered by ASNL. Although the group members' concerns were largely focused on the interruptions of other participants during sessions, parents' concerns considered the delivery of, and access to the program. Their worries surround the continued social development of their children, and concerns related to how their needs will be met by this program, or like services in the future. The limitations noted were not so much a direct critique of the Social Thinking program currently available at the Autism Society of Newfoundland and Labrador, but more a reference to the gap that exists in the current support structure for individuals with a diagnosis of Autism Spectrum Disorders in the province.

Overall, the Social Thinking program offered by ASNL has been received positively by parents and group participants. They see a variety of benefits resultant from participation in the program, and it will be a service they will continue to avail of, and expect more from in the future.

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Appendix A

Correspondence with ASNL

Dear ASNL,

I am a Masters of Counselling Psychology student at Memorial University and I am currently planning a thesis research project related to the social development of adolescents with a diagnosis of High Functioning Autism Spectrum Disorder. Specifically, I am investigating the perspectives and opinions of adolescents who have participated in 'Social Thinking' groups, as well as the perspectives of their guardians. I am requesting approval from the XX Center management to conduct an evaluation of this nature with select group members participating in the 'Social Thinking Program' offered by ASNL.

Please see the overview of the proposed research project below.

Rationale

'Social Thinking' resources and programs aiming to improve the social cognition of individuals with a diagnosis of Autism Spectrum Disorder have increased in popularity in recent years. As Autism awareness increases, so does the demand for new resources and treatments aiming to address social skill development in this population. Although there is evidence to suggest that these types of resources are effective, research considering the format in which 'Social Thinking' curriculums are most effective, and the perceptions of individuals of various ages receiving these treatments is very limited. In order to discover the most effective social skill intervention further

scientific inquiry is required; especially to determine their usefulness from the perspective of the most important stakeholder, the individual receiving treatment.

The purpose of this research study is to determine if ‘Social Thinking’ group work is beneficial for adolescents with a diagnosis of High Functioning Autism (HFA) (or Aspergers Syndrome (AS)).

This project will focus specifically on the participant’s experiences in the group, and their perceptions of its benefit. Through an exploration of these perceptions and opinions a better understanding of effective approaches, activities, and topics may be achieved. In addition, the perceptions of the guardians of the group participants will be considered. This will provide information related to the social skills prioritized by guardians for improvement, as well as their opinions on the usefulness or effectiveness of the group.

The Design

The Participants in this research project will be comprised of up to 10 psycho-educational group members and 10 parents or guardians; one for each group member. Data will be collected from the parents or guardians via a pre-group questionnaire, and a post-intervention semi-structured interview. The questionnaire used will provide the participant with a list of topics to be covered during the course of the psycho-educational group. The follow-up semi-structured interview will focus on their perspectives related to their son/daughter’s involvement in the group.

Information will be gathered from the members of the psycho-educational through two different means. Group members will be asked to complete reflective journaling following each session, as well as participate in a follow-up interview after the final session. This semi-structured one-on-one interview will explore the perceptions of the individual participants further.

The Group

The 'Social Thinking' group(s) will run for a total of twelve to fourteen 1.5 hour sessions across twelve to fourteen weeks. The curriculum will be developed by the Social Thinking Program Coordinator at the XX Center; and will draw from a number of 'Social Thinking' and 'Social Cognition' resources, largely focused on the concepts established by Michelle Garcia Winner.

Group Membership for this study will have a limited age range of 13-18. All group members must meet the diagnostic criteria for Autism Spectrum Disorder (High Functioning).

Experience

Since 2011 I have worked as a Child Management Specialist with Eastern Health's Regional Autism Services Program. Prior to this I acted as the 'Social Thinking Program Coordinator' with ASNL for three years. In these roles I have had the opportunity to work extensively with children and adolescents with a diagnosis of ASD, Aspergers, and PDD-NOS.

Throughout my Master's degree my dedication to understanding the Autism Spectrum influenced the direction of my studies, and the focus of numerous projects. Most recently I completed a three-month work term at Holy Heart of Mary High School. As part of this educational experience I was required to facilitate six weeks of group counselling sessions. I chose to develop a group entitled, 'The High School Success Social Group'; which targeted student's with a diagnosis of ASD, PDD-NOS, Aspergers, or Non-verbal Learning Disability. My experiences in this group are what lead to the development of this thesis research project.

To enable the facilitation of this social group study, I will require a suitable program for evaluation, as well as a community space to conduct pre, mid, and post group interviews. I

believe the XX Center for Autism would be the perfect location for this research. Barring space and scheduling issues, would it be possible for me to evaluate the experiences of your 'Social Thinking' Program participants, and to use a conference room at XX Center to interview the study participants?

Thank you for your time and consideration,

Sincerely,

Aaron Morgan

Appendix B

Participant Recruitment Letter

Dear Parent / Guardian,

My name is Aaron Morgan, and I am a Graduate Student enrolled in Memorial Universities' Masters of Counseling Psychology program.

During the spring semester at The XX Center I will be conducting a research project entitled, '*Social Thinking Group Intervention – Member's Experiences and Parent's Perceptions*'. This project will investigate the perceptions of stakeholders participating in the Autism Society of Newfoundland and Labrador's 12-14 week '*Social Thinking*' program.

This thesis project aims to address the following questions:

- 1) What benefits do participants in the Social Thinking Group report?
- 2) What do parents perceive as the benefits resultant from their son or daughter's participation in the Social Thinking Group?

The purpose of this research study is to determine if '*Social Thinking*' group work is beneficial for 13-18 year olds with a diagnosis of High Functioning Autism (HFA) (or a prior diagnosis of Aspergers Syndrome (AS)). This project will focus specifically on the participant's experiences in the group, and their perceptions of its benefit. Through an exploration of these perceptions and

opinions a better understanding of effective approaches, activities, and topics may be achieved. In addition, the perceptions of the guardians of the group participants will be considered via post-group interview. This will provide information related to the social skills prioritized by guardians for improvement, as well as their opinions on the usefulness or effectiveness of the group. As a result, information may be gathered that could inform the development of similar programs, and support the use of similar curriculums across community settings.

If you are the parent or guardian of an individual enrolled in the Social Thinking program, between the ages of 13 and 18, and have interest in participating in this research project please contact me here:

avmorgan85@gmail.com

(709)730-5454

Once your response is received I will contact you directly with a complete information package.

Please note; participation in this study is not a requirement of the center, or of ASNL. The decision to participate or not will not affect you or your child's use of, or relationship with, the XX Center or ASNL services.

Thank you for your time and consideration,

Aaron Morgan

Appendix C

Parental Pre-Session Interview / Questionnaire

Social Thinking Group

Pre-Session Interview / Questionnaire:

Your son / daughter will be taking part in a weekly 'Social Thinking Group' here at ASNL. As defined on ASNL's website, Social Thinking is a learning strategy that aims to invest people with cognitive social deficits, most common in high functioning autism and Asperger's Syndrome, with the capacity to encode and decode unspoken social conventions. ASNL's Social Thinking Program focuses on these skills, and the development of successful social interactions in persons with Asperger's Syndrome and High Functioning Autism.

Here are the concepts that will be covered over the duration of the Social Thinking Group sessions. Considering the needs of your son / daughter please rank them by order of importance from 1 to 6, where 1 is the skill needing the most improvement, and 6 the least

<i>Social Thinking Concept</i>	<i>Ranking 1-6</i>
Appropriate Social Interactions	
Conversation Building	
Problem Solving	
Perspective Taking	
Emotional Understanding	
Emotional identification	

Interview Questions:

- 2) What are your four main priorities for your son / daughter's social development?

- a. _____
- b. _____
- c. _____
- d. _____

3) What do you hope your son / daughter will gain from participation in this social group?

4) Has your son / daughter participated in social groups or social improvement interventions in the past? If so, what was the format and when did your son / daughter attend?

Appendix D



Weekly Session Journal Template

Weekly Session Journal

ID: _____

Date: _____

Week: _____

Today's Topic: _____

We really want to know what you think! Please take a few minutes to tell us how you felt about the session today.

Questions:

- 5) What did you learn today?
- 6) Was there a topic you found helpful or interesting? Explain
- 7) Was there a topic you did not find helpful or interesting? Explain
- 8) Tell me about your favourite activity.
- 9) Do you like being part of this group? Why / Why not?
- 10) How did you feel in group today?

Appendix E



Group Member Post-Intervention Interview

Social Thinking Group

Group Member Post-Intervention Interview:

You've completed a whole semester of the 'Social Thinking Group'! This interview is an opportunity for you to share your thoughts on the group, and tell me more about your experience.

Interview Questions:

- 1) Did you find the sessions useful? Why or why not?
- 2) Tell me about the experiences you had in group that you enjoyed. (Tell me why / explain)
- 3) Where there topics or activities you did not enjoy? (Tell me why / explain)
- 4) Would you participate in a similar group in the future?
- 5) Is there anything you would change about the group? If so, what?
- 6) Do you feel like you've changed in anyway as a result of being part of this group?
- 7) Do you think your social skills have improved? Why or why not?

Appendix F

Parental Post-Intervention Interview

Social Thinking Group

Parental Post-Intervention Interview

Your son / daughter has completed a semester of the 'Social Thinking Group' as ASNL's XX Center for Autism. This interview is an opportunity for you to share your thoughts on the program and on your son / daughter's progress.

Interview Questions:

- 1) Do you think there were any benefits or participating in the group? Explain.

- 2) What changes did you notice in your son or daughter's social functioning?

- 3) Would you support your son/daughter's participation in a similar group in the future? Why or why not?

- 4) During the time your child participated in the social thinking program did he or she discuss the group? If so, what did they say? How do you think your son or daughter felt about their group experience?

- 5) What do you see as the strengths of the program?

- 6) What would you change about the program, if anything? (Including session duration, frequency, group size, location, etc.)

Appendix G

Informed Assent Form

Dear Group Member,

You have been invited you to take part in a study to learn more about how people with a diagnosis of Aspergers syndrome or Autism feel about learning social skills in groups.

The study is called: *Social Thinking Group Based Intervention – Member’s Experiences and Parent’s Perceptions.*

Please read the information below for more details on the study.

Why I am doing this study:

People with a diagnosis of Autism or Aspergers sometimes need help developing their social skills, and often social group settings are used to teach and practice new skills. I want to get a better idea of how the people participating in these groups feel about them. Knowing this may help professionals to develop the most effective groups and resources.

Why you are being asked to be in the study:

I am inviting you to participate in this study because I am interested in what you have to say.

In order for me to do this study I need volunteers between the ages of 13-18 with a diagnosis of Autism or Aspergers Syndrome, and you could be one of them.

What you will be doing if you participate in the study:

If you decide that you want to participate in this study, you will be asked to take part in the 'Social Thinking Group' at the XX Center. A total of 10 participants' will be divided into groups of three to four. You will meet with your social group once a week for 12-14 weeks. Each group meeting will last for 1.5 hours.

At the meetings you will have discussions and complete fun activities about different social skills, like; self-awareness and understanding what other people think.

In addition to the group meetings you will be asked to complete:

Journals –

After each group you will be given a small number of questions, and you will answer them in a short Journal entry (taking about 15 minutes to finish). These journals will give me information about how you felt during your time at the group. Once you finish a journal it will be given to your group coordinator, who will keep it safely under lock and key until I pick them up for review and copying. Once the journal entry has been copied it will be returned to you. No one else will ever see these journal entries, unless you want to share them with someone.

Interview –

At the last group session you will be interviewed by me (for approximately 30 minutes). You will be asked questions like, ‘what did you enjoy in the group?’ and ‘what could have been better?’ If you are ok with it, the interview will be audio recorded so I can review it later. If this makes you uncomfortable I can take notes during the interview instead. All audio recordings or notes will be stored safely so no one other than me and my supervisor can see them. This interview will take place in a room at the XX Center – the same place you will go for your group meetings.

One of your parent(s)/guardian(s) will also be part of the study. I will ask them questions about your social goals, as well as interview them about the 'Social Thinking Group'. They will not be present during your group meetings, but I am interested in knowing what they think about the group.

The risks involved in participating:

There are very few risks involved with participating in this study, but I want to tell you about them before you decide to participate.

First, because this is a new situation with new people, you may feel uncomfortable or nervous at times. This will get easier as you get to know your group members. Your Social Thinking group coordinator will do everything she can to make sure you feel comfortable being part of the group. Also, you may feel a little nervous doing an interview with me after you have finished the group, but it will be relaxed and easy. The questions will only ask you how you felt about the group and the activities you participated in. If you would prefer, your parent can also be in the room during the interview.

Second, I will never tell anyone who was part of the study, but I cannot completely guarantee that the other members of the group will respect your privacy. Your group

coordinator will follow rules to protect your privacy and confidently as a group member; and I will do everything I can to protect your privacy as a study participant.

How benefits involved in participating:

The purpose of the 'Social Thinking Group' will be focused on developing your ability to interact with others. The Social Thinking Coordinator will cover many different topics and skills that are generally difficult for teens with a diagnosis. By participating in the group these skills may improve, and there is a chance you may feel more comfortable and confident in social situations.

Participating in the journaling and interview may also help you to think about the group lessons. If you learn any new skills, doing this will remind you of them and may increase the chance you will use them later.

Participation in voluntary:

You do not have to be in this study if you do not want to be, and you can still go to the 'Social Thinking Group' at the XX Center. If you decide that you don't want to be in the study after we begin, that's OK too. If you have already written some journals or completed an interview, we will not use that information in the study unless you want us too. Nobody will be angry or upset.

We are discussing the study with your parents and you should talk to them about it too.

What will happen after the study:

When the groups and interviews are finished I will write a report about what was learned. This report will not include your name, and no one will be able to tell you were involved in the study or the 'Social Thinking Group' by reading the report. You and your parent(s) will get a copy of the report if you want one.

If you have questions:

You can ask me questions at any time! If you want to know more about the study, or about me, feel free to ask. I'll do my best to answer any question you may have.

Aaron Morgan, Masters of Educational Counselling, Memorial University of Newfoundland,
k32avm@mun.ca, (709)730-5454

Assent:

If you decide you want participate in this study, please write your name below.

If you decide to participate now, but change your mind after the groups have started, that's ok. You can leave the study at any time, and you don't have to tell me why. Just ask your parent(s) to let me know.

I, _____ (Print your name) would like to take part in this research study and '*Social Thinking Group*'.

_____ (Date of assent)

_____ (Name of parent who obtained assent)

_____ (Signature of parent who obtained assent and Date)

Appendix H

Informed Consent Form

Informed Consent Form

Title: *Social Thinking Group Based Intervention – Member’s Experiences and Parent’s Perceptions*

Researcher: Aaron Morgan, Masters of Educational Counseling, Memorial University of Newfoundland, k32avm@mun.ca, (709)730-5454

Supervisor: Dr. Sharon Penney, Education Department, Memorial University of Newfoundland, scpenney@mun.ca

You and your child are invited to take part in a research project entitled '*Small Group Social Thinking Intervention – Member’s Experiences and Parent’s Perceptions*'.

This form is part of the process of informed consent. It should give you the basic idea of what the research is about and what you and your child’s participation will involve. It also describes your right to withdraw from the study. In order to decide whether you wish to participate in this research study, you should understand enough about its risks and benefits to be able to make an informed decision. This is the informed consent process. Take time to read this carefully and to understand the information given to you. Please contact the researcher, Aaron Morgan, if you have any questions about the study or would like more information before you consent

It is entirely up to you and your child to decide whether to take part in this research. If you and your child choose not to take part in this research or if you and your child decide to withdraw from the research once it has started, there will be no negative consequences for you or your child, now or in the future.

Introduction:

My name is Aaron Morgan (B.A Psychology) and I am a graduate student currently completing a Masters of Counseling Psychology through the Faculty of Education at Memorial University. I have been working in the mental health field since the completion of my B.A in 2007. Starting as an ABA (Applied Behavior Analysis) Home Therapist, my interest in the treatment of those diagnosed with Autism Spectrum Disorders developed quickly. For three years I acted as the 'Social Thinking' Program coordinator at the Autism Society of Newfoundland – drawing from the works of leaders in the field such as Michelle Garcia Winner, to develop program content for my clients. Since 2011 I have worked with Eastern Health as a Child Management Specialist, primarily with the Regional Autism Services ABA Program. I now work as a Senior Therapist in training in the program that first introduced me to Autism Spectrum Disorders, while pursuing the completion of my Master's thesis under the supervision of Dr. Sharon Penney.

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Purpose of the study:

'Social Thinking Group Intervention – Member's Experiences and Parent's Perceptions' is investigating the perceptions of stakeholders participating in the Autism Society of

Newfoundland and Labrador's 12-14 week '*Social Thinking*' program held at the XX Center for Autism (implemented by the Social Thinking Program Coordinator). The project aims to address the following questions:

- 1) What benefits do participants in the Social Thinking Group report?
- 2) What do parents perceive as the benefits resultant from their son or daughter's participation in the Social Thinking Group?

The purpose of this research study is to determine if '*Social Thinking*' group work is beneficial for teens with a diagnosis of Autism Spectrum Disorder (High Functioning Autism). This project will focus specifically on the participant's experiences in the group, and their perceptions of its benefit. Through an exploration of these perceptions and opinions a better understanding of effective approaches, activities, and topics may be achieved. In addition, the perceptions of the guardians of the group participants will be considered. This will provide information related to the social skills prioritized by guardians for improvement, as well as their opinions on the usefulness or effectiveness of the group. As a result, information may be gathered that could inform the development of similar programs, and support the use of similar curriculums across community settings.

What you and your child will do in this study:

Before the group sessions with your child begin, you will be asked answer a short pre-group questionnaire. This form will provide the researcher with information regarding your priorities for your child's social skill improvement.

Following the completion of the group sessions a post-intervention interview will be conducted during which you will be asked to share your perspectives and opinions related to the overall outcomes of the group, and your thoughts on its strengths / weaknesses. With your approval, the semi-structured interview will be recorded for review and transcription purposes. If you are not comfortable with tape recording for any reason, notes will be taken during the interview with your permission.

Your child will be asked to participate in the spring semester of the '*Social Thinking*' group, implemented by ASNL and their Social Thinking Program Coordinator. Group sessions will be 1.5 hours in length, and will occur once weekly for 12-14-weeks. A total of 10 participants will take part in this study; divided into 'Social Groups' of 3-4 individuals.

Following each group meeting your child will be provided a number of written questions and asked to complete a reflective journal. Journal questions will focus on your child's experiences in group, and their opinions related to session topics and content. Once the journal is completed, it will be turned into the group coordinator, who will keep it safely at the XX Center. The researcher will pick-up the journals for copying, following which they will be returned to your child at the next group meeting.

In addition to the weekly journals, your child will be asked to participate in a semi-structured interview. These one-on-one interviews will take place during the final group session. Interviews will be conducted in a room at the XX Center; your child will be asked to share their opinions related to the effectiveness of the group and session content. With you and your child's approval, the semi-structured interview will be recorded for review and transcription purposes. If you or your child is not comfortable with tape recording for any reason, notes will be taken during the interview with your permission. Additionally, if you and your child are uncomfortable with the one-on-one interview format – arrangements will be made for your presence during the interview.

Length:

The 'Social Thinking' group will run for 12-14 (1.5 hr.) sessions across 12-14 weeks

The pre-group questionnaire will take approximately 20min.

The post-intervention semi-structured interview will take approximately 1 hr.

'Group member' journaling will take approximately 15min per journal entry

'Group member' semi-structured interviews will take approximately 0.5hr.

Not accounting for travel time to and from the center, the approximate total time commitment required for parents / guardians will be 1hr 20min.

Including time spent in session; approximate total time of participation for your child (the Social Thinking group member) will be will be 25hrs.

Withdrawal from the study:

You and your child are free to withdraw from the study at any time. You will not be asked to provide an explanation for your withdrawal, and withdrawing from the study will not affect you or your child now or in the future. Participation in the 'Social Thinking Group' can also continue following a withdrawal from the study. Withdrawal will not affect you or your child's use of, or relationship with, the XX Center or ASNL services.

Individuals participating in the study will be required to contact the primary researcher to indicate a desire to withdraw. This contact may be made in person, via phone call, or e-mail, whichever mode of communication the participant prefers. If a withdrawing participant permits the use of their data than it will still be used in the results of the research project – if not, all data will be destroyed via shedding and deletion, without consequence to the participant

Data can be removed from the study after participation has ended. Participants will retain the right to withdraw their data from the project at any point up to June 2016, following which the data will have been aggregated and analyzed and no longer eligible for withdrawal.

Possible benefits:

For participants in the psycho-educational group (your child) the anticipated direct benefits are numerous. Members may experience mutual acceptance during the sessions, and as a result develop positive feelings related to a social experience in a group setting. This may in turn increase the likelihood of their participation in future social events. In addition, the weekly sessions will focus on specific social cognition skills. As a result, improvements in interpersonal skills, understanding others perspectives, and self-awareness are anticipated. The reflective journaling and semi-structured interviews included as part of this study will also enable self-reflection – possibly encouraging the continued use of new skills; or general improvements in relation to social skill awareness.

In addition, research considering the perceptions of participants in groups of this nature, and the perceptions of their guardian(s) / parent(s) are very limited. As a result, the findings of this study may benefit the community by evidencing the need for continued support and development of like programs; and provide service providers with a better understanding of the needs and expectations of adolescents with a diagnosis of Aspergers, or High Functioning Autism Spectrum Disorder.

Possible risks:

Individuals with a diagnosis of High Functioning Autism or Aspergers syndrome often experience high levels of anxiety. Since the psycho-educational group setting may be a first for your child, their participation may result in heightened levels of anxiety. The topics of discussion will also be

focused on skills that are typically difficult for individuals with these diagnoses; which may also result in the experience of anxiety. The Social Thinking program coordinator will manage and minimize these emotional risks. Your child will be informed of session content, which will increase the predictability of the sessions and likely reduce anxiety levels. In addition, participants' emotional states will be monitored during sessions by the Social Thinking program facilitator. In the event that a participant's emotional status becomes a major concern their guardian will be contacted, and referral to emergency or psychological services will be made if necessary.

The social risks related to participation in this study largely surround confidentiality and privacy. ASNL policies are in place to protect the privacy and confidentiality of group participants; and will be followed by the Social Thinking program coordinator. Although the group facilitator will discuss privacy with the group, there is still a risk that other group members may share participant information. This is a risk outside of the researcher's control, but parents and participants will be made aware of this risk so that their participation in the study and the social thinking services offered by ASNL is informed.

As a member of The Social Thinking group, your child will also complete reflective session journals and a one-on-one interview. These activities hold very little risk. Since all questions are opinion based and focused on experiences within the group it is highly unlikely that the content of the journal or semi-structured interview will cause your child any emotional stress. The primary researcher will be introduced to the group member before the interview takes place –

and efforts will be made to ensure your child is comfortable. If your child becomes anxious or uncomfortable during the process the interview will be postponed or completed via alternate means (telephone, etc.). In addition, if you or your child is uncomfortable with the one-on-one format of these interviews, you will be permitted to be present during their completion. If the emotional status of your child becomes a major concern during the interview process you will be contacted immediately, and referral to emergency or psychological services will be made if needed.

The post-group parental interviews also present little risk of harm. The content of the interview questions focus primarily on the content and effectiveness of Social Thinking group, your child's experiences while participating in it. For this reason, very little, if any emotional discomfort is anticipated. Similarly, if your emotional status becomes a major concern during the interview process your emergency contact will be informed, and referral to emergency or psychological services will be made if you wish.

Confidentiality and Anonymity:

The ethical duty of confidentiality includes safeguarding participants' identities, personal information, and data from unauthorized access, use, or disclosure. Respect for participant privacy and confidentiality is a guiding ethical principle of the research policies at Memorial University of Newfoundland. While every effort will be made to protect you and your child's privacy, there are limits of confidentiality. The primary researcher will have a duty to report any disclosure of abuse, harm to self, or harm to others to the proper authorities.

Anonymity refers to protecting participants' identifying characteristics, such as name or description of physical appearance. As described above, you and your child's anonymity will be protected to the best my ability; however, the nature of groups prevents my ability to guarantee that other members of the group will do so. All identifying information being collected before the start of the research will only be used for contact and scheduling purposes. At no time will the personal information gathered during recruitment be located on any research data document. In addition, consent forms will be stored separately from the data collected so that it will not be possible to associate you or your child's identity to any given set of journals or interview responses. For the purposes of data collection, you and your child will be assigned a number code. All questionnaire results, transcribed dialogue, and journal entries will have that assigned number as the only method of identification. At no time will the data be presented with identifying information. For the Master's Thesis you and your child will be assigned a pseudonym to insure your privacy and confidentiality.

Recording of Data:

With you and your child's permission post-intervention interviews will be recorded using a digital recorder. Only responses to the applicable interview questions will be recorded. If you or your child is not comfortable with audio recording notes will be taken during the interview with your approval.

Storage of Data:

The primary researcher, research supervisor, and Social Thinking Program Coordinator will be responsible for the safe storage of all data resulting from scholarly activity. The researcher will store the data at the office of Dr. Sharon Penney, in a locked filing cabinet on MUN campus. Before the reflective journals are picked up and copied by the primary researcher, the Social Thinking program coordinator will hold them temporarily under lock and key in a cabinet located at The XX Center for Autism. Once they are copied they will be returned to the group participants. Once all data collection is completed only the primary researcher and Dr. Penney will have access to it. Questionnaires, journal copies, and transcribed interviews will be stored as hard-copy; audio recorded interviews will be kept on a USB stick. Consent forms will be stored separately from the research data within a separate locked filing cabinet within Dr. Penney's office. Memorial University's policy on Integrity in Scholarly Research will require the data to be retained for a minimum of five years. Once the 5-year period has concluded arrangements will be made to have the data destroyed.

Reporting of Results:

The information gained from this study will be presented in aggregated and summarized form. Direct quotes may be used where applicable. The results will be written in a master's thesis, and potentially in journal article format for submittal to peer reviewed journals or books. The thesis will be publicly available at the QEII library located in St. John's NL. A brief summary of the findings will also be forwarded to the board of the Autism Society of Newfoundland and Labrador.

In addition, a public meeting will be held at the XX Center following the completion of the thesis during which the findings of the study will be presented and reviewed.

Sharing of Results with Participants:

Upon request the results and implications of the research project will be summarized and shared with participants via written report. At that time the contact information for the primary investigator will also be provided to ensure that any future questions pertaining to the written report can be answered.

Questions:

You are welcome to ask questions at any time during you and your child's participation in this research. If you would like more information about this study, please contact Aaron Morgan: k32avm@mun.ca, (709)730-5454, or the research supervisor Dr. Sharon Penny: scpenny@mun.ca

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights

as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.

Consent:

Your signature on this form means that:

- You have read the information about the research.
- You have been able to ask questions about this study.
- You are satisfied with the answers to all your questions.
- You understand what the study is about and what you and your child will be doing.
- You understand that you are free to withdraw from the study at any time, without having to give a reason, and that doing so will not affect you now or in the future.
- You understand that any data collected from you or your child up to the point of your withdrawal will be retained by the researcher, unless you indicate otherwise
- You understand that if you choose to withdraw after data collection has ended, your data can be removed from the study up to June 2016.

I agree to be audio-recorded

☐ Yes ☐ No

I agree to the use of direct quotations

☐ Yes ☐ No

By signing this form, you do not give up your legal rights and do not release the researchers from their professional responsibilities.

Your signature confirms:

☐ I have read what this study is about and understood the risks and benefits. I have had adequate time to think about this and had the opportunity to ask questions and my questions have been answered.

☐ I agree to participate in the research project understanding the risks and contributions of my participation, that my participation is voluntary, and that I may end my participation.

☐ A copy of this Informed Consent Form has been given to me for my records.

Signature of participant

Date

NOTE – The first 10 completed and returned consent forms will determine the participants to be included in the study.

All study related documentation, including consent forms, are to be sealed in the provided envelope and returned to the Social Thinking Program Coordinator, located at the XX Center for Autism (*address*) between 9-5 Tuesday-Saturday.

Researcher's Signature:

I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

Signature of Principal Investigator

Aaron Morgan

Telephone number (709) 730-5454

e-mail: k32avm@mun.ca

Date