A Psychoeducational Group Intervention for Siblings of Children With Autism Spectrum Disorder

Andreas Brouzos, Stephanos P. Vassilopoulos & Christina Tassi

Published online: 10 Aug 2017.

Submit your article to this journal ⬀

View related articles ⬀

View Crossmark data ⬀

A Psychoeducational Group Intervention for Siblings of Children With Autism Spectrum Disorder

Andreas Brouzos
University of Ioannina

Stephanos P. Vassilopoulos
University of Patras

Christina Tassi
University of Ioannina

This study examined the effectiveness of an 8-week psychoeducational group program for siblings of children with autism spectrum disorder (ASD). The sample consisted of 38 siblings aged 6–15 years (M = 10.75), allocated to the experimental (n = 22) or control group (n = 16). Self-report questionnaires were administered before and after the intervention. Results indicated a significant increase in knowledge of ASD in the experimental group, but not in the control group. In addition, a statistically significant reduction in adjustment difficulties and emotional/behavioral problems in the experimental group was detected. The theoretical and practical relevance of the findings for facilitating sibling support groups is discussed.

Keywords: *ASD; autism; outcome study; psychoeducational groups; psychological adjustment*

There is growing evidence that the presence in a family of a member with a developmental disability can affect all members of the family as well as their intrafamilial and social relationships (Fishman & Wolf, 1991; Gallagher & Hannigan, 2014; Harpin, 2005). In, particular, having a child with a disability increase a family's vulnerability to stressors such that other family members may also be at risk for developing adjustment

and emotional problems (Hastings, 2003; Rao & Beidel, 2009; Ross & Cuskelly, 2006). In that case, family members other than the affected child may also need help to overcome their emotional and social difficulties. The purpose of this study was to design and preliminarily evaluate a psychoeducational group program tailored to meet the needs of children who have siblings with autism spectrum disorder (ASD).

LITERATURE REVIEW

A review of the sibling literature reveals that brothers and sisters of children with ASD are at heightened risk of developmental and adjustment problems in comparison to siblings of children with any other disability or no disability (Green, 2013; Griffith, Hastings, & Petalas, 2014; Kaminsky & Dewey, 2002; however, see Hastings & Petalas, 2014; Meadan, Stoner, & Angell, 2010; for a mixed pattern of results). First, on the practical domain, it is reported that siblings of children with ASD face many issues and challenges on a day to day basis: they are confronted with damaged or lost property, with noise caused by their brother or sister as well as with his/her repetitive and unpredictable behavior, which they find it difficult to comprehend (Howlin & Yates, 1990; Richman, 2001; Smith & Perry, 2004). Moreover, they often assume caregiving responsibilities and other domestic work and they are more likely to endure increased demands or pressure from their parents (Diener, Anderson, Wright, & Dunn, 2015; Rodrigue, Geffken, & Morgan, 1993). Because of the family's psychological and financial burden of having to care for a child with a chronic disability, siblings of children with ASD often live in poorer and inadequate housing and their own needs become secondary to the needs of the affected child or even go undetected (Meadan et al., 2010; Ward, Tanner, Mandleco, Dyches, & Freeborn, 2016).

A number of studies have also highlighted the emotional problems encountered by this population. According to Hastings (2003), siblings of children on the autism spectrum tend to take their brother's or sister's behavior personally and, thus, become emotionally hurt (Howlin & Yates, 1990; Richman, 2001). Furthermore, it has been shown that they feel lonelier than siblings of typically developing children and have more concerns about the future (Bagenholm & Gilblberg, 1991). Prominent, according to the relevant literature, is the shame they feel for their sibling (Roeyers & Mycke, 1995). Siblings of children with ASD are embarrassed both to bring friends home and to appear with their disabled brother or sister in public because of their sibling's erratic behavior (Banks et al., 2001; Hastings & Petalas, 2014; Mascha & Boucher, 2006). Also, several studies have demonstrated that feelings such as fear of "catching"

their brother's/sister's disorder, anger, jealousy, resentment for him/her, and guilt for experiencing ambivalent emotions are not rare for this specific population (Banks et al., 2001; Hastings & Petalas, 2014; Mascha & Boucher, 2006; Meyer & Vadassy, 1994). Finally, it has been shown that unaffected siblings tend to experience relatively high levels of depression and anxiety (Gold, 1993; Orsmond & Seltzer, 2007).

Another line of research has focused on the sibling's struggles in the social and interpersonal domain. According to Bagenholm and Gillberg (1991), typically developing siblings of children with ASD have fewer or no friends at all, encounter more problems in their relationships with peers and are more likely to become the target of peer bullying and intimidation (Naylor & Prescott, 2004). Also, they tend to experience negative interactions with other people because of their affected sibling's behavior (Morgan, 1988). Additionally, it has been reported that they tend to display low pro-social behaviors or lower interpersonal competence in comparison to siblings of children with Down syndrome or to siblings of typically developing children (Griffith et al., 2014; Hastings, 2003; Kaminsky & Dewey, 2002). Similar are the findings of Ross and Cuskelly's (2006) study, in which nearly 40% of mothers of children with ASD report that their typically developing children display problematic behavior. Furthermore, it has been shown that they are at increased risk for developing internalized and externalized problems, including attention problems (Rodrigue et al., 1993; Ross & Cuskelly, 2006; Verté, Roeyers, & Buysse, 2003).

At this point it is worth mentioning that unaffected children's adjustment problems are not derived directly from their sibling's disability, but many factors appear to mediate the effects of having a brother or sister with a developmental disability such as demographic factors (e.g., age, gender, socioeconomic status, size of family, birth order rank of the child with ASD, etc.), psychological factors (e.g., personality traits) associated with the typically developing sibling itself and his or her parents, as well as the quality of intrafamilial relationships (Benson, Karlof, & Siperstein, 2008; Stoneman, 2005; Tint & Weiss, 2016; Tomeny, Barry, & Bader, 2014). Nevertheless, the evidence so far is inconclusive (Meadan et al., 2010). Further, it has been shown that, when parents receive some kind of support services, the sibling's behavioral disturbances tend to be transient and even diminish (Hastings, 2003). However, little is known about what happens when the typically developing children themselves receive counseling support.

Despite the aforementioned difficulties faced by the children of families affected by ASD, there is currently no sufficient supportive framework for them, probably due to the disproportionate attention given to the psychosocial needs of other family members such as parents (McLinden, Miller, & Deprey, 1991; Smith & Perry, 2004;

Tint & Weiss, 2016). Moreover, only a few preliminary studies have examined the effectiveness of sibling support groups designed specifically for this target group (Cooke & Semmens, 2010; Smith & Perry, 2004). Smith and Perry (2004) formed a support group, consisting of eight consecutive weekly sessions, for 26 siblings (aged 6–16 years) of children on the autism spectrum. In order to evaluate the effectiveness of the intervention, the pretest and posttest method was used by administering self-report and parent-report scales. The results showed an increase in children's knowledge about autism as well as in their self-esteem: however, no statistically significant reduction in their feelings of anger and discontent about their brother was found. Furthermore, no control group was included so that it is difficult to ascertain whether the positive results observed reflect the effects of the support group itself or the effects of repeated instrumentation and children's maturation. In the second study investigating the issue, Cooke and Semmens (2010) also collected information from both parents and children. The authors showed that participation of twelve siblings of children with ASD in a support group (aged 8–12 years) contributed to an increase of their patience toward their disabled brother/sister as well as in their understanding of the causes of parental differential treatment. Parents also reported that their children's participation in the group was a valuable and pleasant experience. In accordance with the aforementioned study, an increase in children's knowledge about autism was observed. This was ascertained by asking them to write and draw on a poster—both before and after the intervention—everything they knew about autism. However, the sample size was rather small and, thus, no conclusive evidence can be drawn. In addition, this study did not escape from the same methodological limitation observed in Smith and Perry's (2004) study (e.g., absence of a control condition).

THE CURRENT STUDY

Considering the dearth of studies examining the effectiveness of support groups for siblings of children with ASD (Smith & Perry, 2004), as well as the increasing trend in the prevalence of the disorder at an alarming rate (Kamps et al., 2002; Rice et al., 2013), we set out to further investigate the issue using a more rigorous methodology. Specifically, the purpose of this study was to develop and evaluate a psychoeducational group for siblings of children with ASD aimed at improving their psychosocial adjustment, using a pretest/posttest control group design. Effective sibling support groups reported in the literature appear to share similar goals and procedures such as: (a) they inform participants about the sibling's condition and

discuss issues of personal concern, (b) they assist participants in expressing their feelings about having a brother/sister with a disability and receiving peer support and (c) they discuss problems encountered and adaptive ways of coping (Cooke & Semmens, 2010; Lobato & Kao, 2002; Smith & Perry, 2004). Accordingly, the current psychoeducational group program was designed to include the following main components: psycho-education about autism, emotional education, cognitive restructuring, training in relaxation techniques, problem-solving and social skills training and, finally, psycho-education about self-acceptance.

It was hypothesized that the proposed group intervention would have a number of effects. First, it is expected that the level of the participants' knowledge about autism would be significantly increased following participation, in comparison to the control group. Second, the level of their adjustment difficulties was expected to decline over time. Also, it was expected that group participants would report fewer emotional and behavioral problems after the intervention, compared to their control-group counterparts. Finally, given the mixed empirical evidence regarding the age and gender of unaffected siblings as risk factors for developing adjustment difficulties (Meadan et al., 2010), it was further hypothesized that the group intervention would have the same impact in all age groups, as well as in both sexes.

METHOD

Sample Selection

An invitation letter was sent to all families that have a child with ASD receiving treatment intervention from a non-profit organization. Moreover, the same letter was addressed to the members of the Greek Society for the Protection of Autistic Persons. Participation in the study was completely voluntary. Interested parents came into phone contact with the group leader and were fully informed about the duration and the purpose of the investigation. Following the children's and parents' expressed interest to participate in the study, all parents completed the consent form as a prerequisite for the child's participation.

Participants

The sample consisted of 38 ($N = 38$) typically developing children, aged 6–15 years (grades 1–12), who had a brother or sister with ASD. All the participants were of Greek nationality, did not have a brother or sister with other disabilities apart from ASD, and lived together

with their disabled sibling. In addition, they had not taken part in a similar program and had not received any services from a psychologist/ psychotherapist or other mental health professional.

Twenty-two siblings (10 boys, 12 girls) were allocated to the experimental group and 16 siblings (8 boys, 8 girls) to the control one. The age of the participants in both groups ranged from 6 to 15 years old (M = 10.75). The majority of the participants came from a family of two children (59.1%, 81.3%), in which only one sibling was diagnosed with ASD (95.5%, 100%). The children with ASD were mostly boys (77.3%, 75.5%). Furthermore, the intensity of the sibling's autism was severe for about half of the participants (50%, 37.5%). About half of the typically developing siblings were older than their sibling with autism (50%, 56.3%). In most of the cases, participant's parents were married (64%, 100%). Also, the majority of parents in both groups had completed secondary or higher education, were employed in the public sector, and had not previously received any counseling or psychotherapeutic services, except one case in both the experimental and control group.

Participants in the experimental group were divided into four subgroups of five to seven members each, according to their age. The first group consisted of five children aged 6 years old, the second of five children between 8 and 10 years old, the third of seven children between 11 and 12 years old, and the fourth group of five children between 14 and 15 years old. This relatively narrow age range was considered beneficial for the emergence of therapeutic factors, such as interpersonal learning, universality, and imitative behavior (Yalom & Leszcz, 2005), since children closer in age present similar cognitive and social skills and tend to have similar life-experiences.

Instrumentation

Demographic questionnaire. The demographic questionnaire included questions about the number of children per family, their age and gender, the medical diagnosis of the child with ASD, the parents' marital status, educational level, employment status, and the group member's previous participation in similar programs.

Knowledge of Autism Syndrome. The Knowledge of Autism Syndrome (KAS; Ross & Cuskelly, 2006) is a 20-item measure intended to tap children's basic knowledge of their sibling's autism. The children were invited to respond with "Yes" or "No" to statements concerning the disorder of their sibling. The statements covered aspects such as course, prevalence, aetiology, cognitive ability and associated features. Higher

scores indicate greater awareness of the disorder. One item showed a rather low item-total correlation, probably because it was poorly understood by the children, and was thus removed. For the remaining items, the Cronbach's alpha was .85 both at pretest and posttest.

Coping/Adjustment Scale. The Coping/Adjustment Scale (Perry, 1989) is a 24-item questionnaire designed to tap issues deemed important for psychosocial adjustment specific to the situation of having a sibling with a developmental disorder. It consists of six subscales: Competence/Knowledge (e.g., "Are you good at teaching ____ to do something new (like to tie his/her shoelaces or order a meal in a restaurant)?"), Chores/Expectations (e.g., "do you have to 'babysit' or help to take care of your autistic brother or sister?"), School/Friends (e.g., "Do kids at school or in your neighborhood ever tease you because you have a brother/sister like ____?"), Anger/Resentment (e.g., "Do you get mad at your parents for always paying attention to ____ more than you?"), Mental Health (e.g., "Do you think it is normal to have the feelings you do about ____?") and Future Concerns (e.g., "Do you worry that you might have a child like ____ when you grow up?"). The subscales were scored on a 4-point Likert scale (0 = *certainly yes* to 3 = *certainly no*), with higher scores indicating greater difficulties in coping/adjustment. The mean scores for each subscale are summed to produce a total score representing the siblings' coping/adjustment. Six items were eliminated based on low item-total correlations at pretest. Thus, Cronbach's alpha was .82 and .84, at pretest and posttest, respectively.

The Strengths and Difficulties Questionnaire. The Strengths and Difficulties Questionnaire (SDQ) extended version (Goodman, Meltzer, & Bailey, 1998), a 25-item measure, was used to detect emotional and behavioral problems in children and adolescents. The questionnaire consists of five 5-item subscales: emotional problems, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. All SDQ items are scored on a 3-point scale ranging from 0 = *not true* to 2 = *certainly true*. A 20-item "total difficulties" score was computed by summing the first four subscales, creating an index ranging from 0 to 40. The reliability and validity of the measure have been supported by several studies (Giannakopoulos et al., 2009; Goodman et al., 1998; Palmieri & Smith, 2007). In the present study, Cronbach's alpha for the total difficulties score was .87 and .89 at pretest and posttest, respectively.

Procedures

No ethics approval was obtained for this study since there is no system of ethical review of research in psychology in the Greek university system. In order to evaluate the program the pretest and posttest method was used. One week before the intervention, prospective group members completed the study's questionnaires in the same room where the group sessions were going to run (pretest). In the case of younger participants, the items of each questionnaire were read aloud to them by the group leader. In addition, one of the child's main caregivers (97.3% mothers) provided information regarding the demographic characteristics of the family and the affected sibling's diagnosis. For the control group, the questionnaires were completed at home, also in the presence of the researcher (third author). The data of the questionnaires were coded and analyzed with the statistical package SPSS Version 21.

The four groups were facilitated by the same group leader (third author) on the same day, but at a different time, for 8 consecutive weeks. All sessions took place at a downtown activity center for children with disabilities. The center was a familiar place for participating children and their families, since siblings with ASD were attending the center's programs. Every Saturday the center was opened only for conducting the group sessions and, therefore, there was total silence.

Each group session lasted 90 minutes and consisted of four parts. In the first part, the introduction of the session's topic was followed by a discussion among the members and the leader. In the second part, the leader introduced the structured activities that the children often carried out individually or in pairs. In the third part the activity was processed. The final part included the closing of the session. The components and structure of the intervention was the same for all groups but the presentation and processing of the activities were adjusted to the developmental level of each age group. The psychoeducational group was conducted from mid-October to mid-December 2014 and the re-administration of the questionnaires (posttest) took place 1 week after the completion of the program.

The group leader was a female master's student in a Counselling Psychology program, who had attended a postgraduate level group counseling course. She graduated from a Department of Primary Education, was trained in disability management issues at the same university, and had 2 years of work experience as a tutor of children with ASD. The leader submitted weekly group plans to the course instructor (second author) and received supervision on a regular basis to ensure treatment fidelity across group interventions.

Overview of the Sessions

Session 1: We know each other and agree. After a warm welcome of the members, the group leader briefly informs the participants about the purpose of the psychoeducational group, the issues with which they will deal, and the ways in which they are expected to operate. To help members set an open communication standard, the leader first expresses her feelings verbally and then invites them to continue. (Younger children are asked to indicate their feelings using cards with various facial expressions printed on them.) When the members complete the task, the leader reflects the expressed feelings with respect, so that members feel a warm interest and safety within the group. Next, the leader invites members to introduce themselves in a unique and creative way such as the following: all children sit in a circle and each child announces his or her name while stepping forward and striking a pose that reflects his or her personality. Then everyone else jumps forward and copies the member's voice and movement. Afterwards, the circle returns to normal and it's on to the next person. Again, in order to encourage hesitant members, the leader enters the circle first.

Next, members pair up to participate in an activity that facilitates deeper acquaintance and promotes communication between members. In particular, each member of the pair shares information about himself/herself and his/her family for 5 minutes. The other person listens without interrupting. Then everyone shares with the whole group what was revealed by his or her partner. The leader draws the group's attention to the similarities among members (age, interests, brother/sister with autism, etc.) and asks how they feel now that they have learned a couple of things about each other. The remaining time of the session is devoted to the establishment of group goals and rules. This is achieved via the activity "The group's emblem." By drawing two vertical lines, the leader divides a large piece of cardboard into three parts. She first discusses with the children what they want to achieve in the group and the resulting objectives are written down in the left column. In the right column, the children write down the rules of the group (in the case of younger participants, it is the leader who undertakes the writing section of the activity). The leader asks children to decide how they want to name their group, and the name is written on the top part of the cardboard. Next the children draw in the middle column of the board the group's "emblem," trying to work together while respecting each other's personal space. A discussion follows with the leader further stressing the fact that the members appear to share many common elements and goals, which they can achieve only if they join forces and work together as a team. The session ends with a

brief summary of what had occurred in the group and what the children have learned. For homework, children are encouraged to write in their diary about other groups they participate in and how they feel and operate in them.

Session 2: Neither better nor worse … just different. Siblings of children with autism need valid information to answer their questions about the disorder and to avoid misconceptions that cause unnecessary worry and fear (Meyer & Vadassy, 2008). This can be promoted via the following activities. We present the group with different images of flowers and raise the issue that no flower is "worse," just different. We continue by showing them pictures of people until we arrive at a similar conclusion: "No one is better or worse. We are all different and that's why each of us is unique and important!" Following the previous discussion, we inform group members that differences are not just external. For example, we all have different skills, talents, etc. These differences are not visible at first sight, but rather stay hidden. The same applies to people with ASD. Thus, we facilitate the discussion about autism spectrum disorders and with the aforementioned images we explain all the group members need to know and we respond to their questions.

After a 5-minute break, the second activity is introduced. Children break into dyads and a sheet of paper is given to them on which fears, thoughts, and concerns siblings of children with ASD might have are stated (in the case of younger participants, the written thoughts are read aloud by the leader). They are told that what is written on the worksheet has been expressed by other siblings of children with autism and are encouraged to discuss with their partner if they happen to have the same or similar thoughts. The leader also emphasizes that they should not feel bad or embarrassed about having these thoughts because, as they will soon realize, these concerns are quite common. The activity is completed with whole-group discussions, during which children are invited to explore their worries and acquire a better understanding of autism. The leader reflects their feelings and supports them in such a way as to help them externalize their concerns with safety.

Next, children are shown photos of famous people with ASD and are provided with brief information about them. Following discussion, the group reaches the conclusion that autism is not a disability, but rather a different capacity. All people with ASD have strengths and weaknesses, for instance there are things at which they are not so good, which also applies to the rest of us. In addition, group members are asked to write about the strengths and weaknesses of their own sibling (younger children are asked to draw their siblings' strengths and

weaknesses. For example, if their affected sibling is good at puzzles, they could draw a jigsaw puzzle piece). Each child shares what he or she wrote with the whole group and the leader identifies similarities and differences among their responses. Again, the group reaches the conclusion that every person with ASD presents his or her own strengths and weaknesses and they differ even from other persons with the same condition. Everyone is a distinct and unique personality, neither better nor worse, just different.

For homework, group members are asked bring with them next time they meet and present an object with which their brother/sister usually plays or uses in ways other than those originally intended.

Session 3: I think right … I feel good. Identifying and exploring one's feelings is of primary concern. The first group activity consisted of presenting to children a poster with faces expressing various emotions (e.g., happy, sad, mad) and asking them to work in pairs to identify the emotion each face expresses (6-year-olds use emoticons to perform this activity).

The next activity is called "A cube full of feelings." Group participants are given two cube-like dice with a feeling written on each side of the cubes (for younger participants, feelings are accompanied by emoticons). One of the cubes displays only positive emotions, whereas the other only negative. Children throw the dice and depending on which feeling comes first, they describe two situations that caused such a feeling. The game is played in two rounds. In the first round, children talk about a time when they experienced those feelings in general, whereas in the second round about a time when they felt those feelings in connection to their affected brother or sister. Then, the processing of the activity follows, during which the leader assist children in accepting their feelings after realizing that they are universal.

In the remainder of the session the group examines the interrelation among thoughts, feelings and behavior. Initially a discussion is held about the distinction between thoughts and emotions and relevant examples are brought up (younger participants are given a metaphor, i.e., thoughts occur in one's mind or brain and emotions in one's heart). Also, the children are told that our thoughts about a situation can affect our feelings as well as our behavior before, during, or after the situation. One way to help children understand this is by asking them to recall a recent incident that made them feel happy. Once they identify such an event, the leader gives an example of a positive event concerning a hypothetical child and proceeds by describing in detail the child's thoughts, emotions, and ensuing behaviors. She then

encourages the group members to analyze their recalled incident in the same way by delineating the close connection between thoughts, feelings, and actions. Children repeat the same procedure with other past events in which they felt sadness, fear, shame, or anger. A discussion follows during which the group members share and summarize their main insights.

Their connection between cognitions, emotions, and behavior is further elucidated through the activity "The thought game." Children receive a worksheet on which three thoughts are described and were asked to indicate in writing how they would feel and what they would do if they were thinking in that way (younger children process this and the following activity verbally). For the next three examples, children were asked to imagine that the emotions described are their own and to indicate what they would think and do, if they felt that way. The activity ends with discussion/processing.

During the last activity of the session, the leader reads aloud two short stories taken from the everyday experience of having a sibling affected with ASD and subsequently asks group members to pinpoint which thoughts (positive, negative, or neutral) the protagonist appears to have, as well as the attendant emotions (again positive, negative, or neutral). Next, whole-group discussions help children realize that their own negative emotions regarding their sibling probably come from their negative and catastrophic thinking.

The homework assignments consisted of two worksheets which required children to match thoughts with possible feelings, as well as to recollect a recent pleasant and a sad situation and pinpoint the thoughts, feelings and behavior with which it was associated.

Session 4: Relax and talk to myself. The ability to relax and regulate our emotions is very important. To assist group members in this direction, the leader presents the children (6 years old) with the picture of a cat on which there are written messages sent by the cat's body, e.g., when it is happy, frightened, etc. (To older participants, the picture of a human body is presented.) Children are then asked to draw their body on cardboards and then indicate the ways in which it sends messages when, for example, they are anxious. Next, various relaxing activities are introduced. In particular, the leader engages in various relaxation games suitable for younger children, whereas with older participants she introduces the "My relaxing place" activity. According to this activity, participants are asked to bring to mind an image that calms them down and fills them with pleasure (e.g., a serene landscape). Next, the final activity of the session ("Practice your attention") is introduced. An example is given about how we can use "distraction" to regulate negative emotions and calm down before

or during a stressful situation, i.e., by directing our attention away from unpleasant stimuli and toward things we find less threatening. Group members are then asked to recall the last time they felt really nervous and pinpoint the things (6-year-olds process this and the following activity verbally) they could turn their attention to so as to calm down (e.g., watch outside the window).

In the remainder of the session, the leader raises the issue of negative thoughts and their control. Group members are motivated to recognize and challenge their negative or maladaptive thoughts (e.g., "is it true that I have no friends?") and finally replace them with more adaptive ones. For younger participants, an alternative way to reduce the power and intensity of negative thoughts is to convert a box into a "concern safe." It is then explained that they could throw in and keep locked any unpleasant thoughts they might want to get rid of. In that way, these thoughts tend to lose the power they exert over the person. To adolescent participants, repetitive negative thoughts are compared to a broken-down tape recorder that keeps playing the same tune over and over again and guidance is provided on how to permanently turn it off.

For homework, group members could practice the relaxation exercises once a day. Older children are also encouraged to keep a diary of their (negative) thoughts (named "in search of data"), together with their efforts to control and challenge them in the way they had learned the session.

Session 5: Action plans for difficult situations. The purpose of this session is to help participants understand how crucial it is to think before they act. Initially, a useful approach is described that could help group members refrain from acting impulsively on the first thought that jumps to their mind. This approach is called "Stop, think, and move" and uses the metaphor of traffic lights, i.e., we terminate any action at the red light, look at all the aspects of the current situation and come up with an action plan at the orange, and only when the traffic light turns green do we proceed with our plan. Then, the second activity of the session ("The golden rule of six") is introduced to help children learn how to solve their problems. First, the six steps of problem-solving procedure (identify the problem, explore various solutions, examine the possible results of each idea, choose the best idea/solution, put the idea into practice, discover the positive and negative outcomes) are explained (for 6-year-olds, an example is given, i.e., how to transfer a balloon from one side of the room to the other without touching it by hand or feet). Then, participants are presented with hypothetical letters written by siblings of children with autism, in which they ask for help due to a problem they

encounter. Group members work in pairs and problem-solve in order to arrive at the best solution for each problem situation.

Next, another activity focusing on problem-solving ("The ladder of success") is introduced. The group leader explains that when a problem appears to be overwhelming, we can always break it into several smaller parts and go one step at a time. A concrete example is also presented. Children are asked to think of a difficult situation they encountered recently and try to divide it into small steps, just like the example. Moreover, they are encouraged to write for each step a positive thought in a speech bubble, as well as the reward they would like to receive for every accomplishment (6-year-olds process this and the following activity verbally).

The fourth activity of the session ("How to think like winners") aims to instruct children to avoid paying too much attention to the negative aspects of a situation. This is achieved by explaining to them that when we are preoccupied with negative perceptions, inevitably, we feel anxiety and regret. That is because we tend to magnify the unsuccessful moments and overlook or discount the ones that went so well. To feel better, we should also search for even little clues of success and, once we find them, to reward ourselves (6 years olds are first told a story, "Fred the puppy"). For practice, children are asked to think of a difficult situation they got involved in lately and write about what they think they did right (positive aspects).

For homework, group members are asked to apply the "golden rule of six" to overcome a real-life difficulty or problem-solve using the "ladder of success," without forgetting to reward themselves.

Session 6: The treasure of friendship. The aim of this session is to assist children in realizing that they are not alone, but rather have a support network (parents, relatives, friends, etc.) they can turn to in times of difficulty. A second aim is to encourage participants to come up with ideas about how to best explain to friends and others the specific characteristics of persons with autism.

The group session begins with the activity named "Tree of support." The leader has designed a tree on cardboard with leaves that have been cut off. After distributing the leaves, she asks the children to write the names of their significant others on the leaf and attach it to the tree. Following discussion, the group members conclude that they are not alone, but rather surrounded by supporting and nurturing people, i.e., friends, relatives, to which they could talk about their problems and seek advice. Next, the leader writes in the center of a large colored cardboard the phrase "Friendship is…" and the group members are invited to brainstorm and fill in the sentence in order to

formulate a definition of friendship. In the third activity of the session, children are randomly divided into pairs and work together in order to arrive at five things real friends do and five things they do not do to each other. Then, a list with "keys for friendship" is prepared that members can use as a memorandum every time they want to initiate a new friendship or maintain it. As a final activity, children are divided randomly into pairs and get a worksheet with cartoons depicting same-age children talking to each other with speech bubbles overhead. Group members fill in the speech bubbles with what they might say if they had to explain their autistic sibling's behavior to a friend (6-year-olds process the activity verbally). For homework, the leader encourages participants to try and make a new friend.

Session 7: I am unique. To assist group members in identifying positive elements in themselves and others, each child is asked to draw on colored cardboard the contour of his or her hand, then cut it off with a pair of scissors and write his/her name upon it (6-year-olds are assisted by the leader). The rest of the group is invited to think and write on each finger a positive trait of the owner. At the final stage of the activity, every child reads aloud what has been written on his or her 'hand' and the group provides feedback. For the next activity, children are asked to think and write down positive adjectives about themselves using the letters of their names, before reading them aloud in front of the group. The third activity begins with the leader distributing a worksheet on which participants are asked to describe the personal talents, interests, experiences, or achievements they want to share with the group. Once this is accomplished, everyone reads aloud what he or she wrote and has the opportunity to further elaborate on the elements that characterize him or her. Finally, to assist members in accepting the elements of their external appearance or personality that make them feel inferior, "The Sad Poppy" fairy tale is read aloud by the leader. Then, participants get into small groups and draw on a large piece of cardboard the basic elements of the story. Each subgroup draws a characteristic scene until the main points of the story are illustrated. At the processing of the activity, the leader emphasizes the importance of accepting ourselves and our traits, both positive and negative.

For homework, all children are instructed to stand in front of a mirror and, looking at their reflection with an attitude of acceptance, to search for somatic features or personality aspects they feel comfortable with. They could also write about this experience in the diary they keep.

Session 8: We say goodbye. To assist children in depicting their group experience and expressing their feelings about the termination

of the sessions, the leader asks them to engage in an activity called "My path in the group." Each child draws on cardboard a path that symbolized their progress in the group from the first to the last session. The leader asks them to decorate the path with drawings, symbols, words, or mottos reflecting the important moments that they have had in the group. Moreover, the children are encouraged to imagine and draw where this path leads. Then, they share their drawings with the rest of the group and discuss their experience of group participation and the emotions that emerged during the drawing activity. An opportunity is given to group members to express their appreciation and positive feelings toward the leader and the rest of the members. As a final activity, the leader distributed colored cardboard and asked the members to fold these in the middle to make a farewell card for each member. Participants exchange their cards along with a personal gift and thank each other for the gift and the companionship. The leader provides links to the future by reminding them of the caring and nurturing persons in their life and the life skills they have acquired in the group. The session ends with a celebration of what had been accomplished with the group, during which the children receive a portfolio with their completed assignments and a brief summary of each group session.

RESULTS

All participants completed the pretest and posttest measures. Groups did not significantly differ in age, $t(36) = .63$, $p > .05$, gender distribution, $\chi^2 = .08$, $p > .05$, knowledge of autism spectrum disorder (KAS; $(36) = .01$, $p > .05$), coping/adjustment difficulties ($t(36) = 1.15$, $p > .05$), or emotional/behavioral problems (SDS-total difficulties, $t(36) = 1.74$, $p > .05$) at pretest. Means and standard deviations are presented in Table 1.

We predicted that children in the experimental group would report an increase in knowledge of autism (KAS scores) compared to those in the control group. This hypothesis was tested using mixed ANOVAs with Group (experimental versus control) as the between-subjects factor and Time (pretest versus posttest) as the within-subjects factor. In line with our hypothesis, there was a very significant interaction of time with group, $F(1, 36) = 70.68$, $p < .001$, partial $\eta^2 = .66$. Post hoc comparisons showed a significant increase in KAS scores after intervention, $t(21) = 11.42$, $p < .001$, but no significant change for the control group, $t(15) = 1.96$, $p = .07$.

The hypothesis that participants in the experimental condition would evidence reduced coping/adjustment difficulties than those in

Table 1   **Means (and Standard Deviations) of Outcome Measures for Each Group on Each Occasion of Testing**

| | Experimental group | | Control group | |
| | (n = 22) | | (n = 16) | |
	Pre	Post	Pre	Post
Knowledge of ASD	9.36 (3.98)	14.64 (2.10) [a]	9.38 (4.08)	9.81 (4.32)
Coping/adjustment	12.24 (1.94)	8.80 (1.41) [a]	11.59 (1.3)	11.65 (1.27)
SDQ –total difficulties	12.27 (6.99)	5.82 (3.85) [a]	15.81 (4.88)	16.19 (5.08)

Note. [a] Pretest vs. Posttest means differ significantly ($p < .001$)

the control condition was tested using a similar ANOVA to that described above. For KAS scores, there was a significant interaction of time with group, $F(1, 36) = 168.38$, $p < .001$, partial $\eta^2 = .82$. According to our post-hoc comparisons, the experimental group showed a significant reduction in coping/adjustment difficulties, $t(21) = 16.05$, $p < .001$, but coping/adjustment scores did not significantly change for the control group, $t(15) = .55$, $p = .59$.

Changes in emotional/behavioral problems from pretest to posttest were also examined using a similar mixed ANOVA. Again, the interaction of time by group was found to be significant, $F(1, 36) = 46.40$, $p < .001$, partial $\eta^2 = .56$. Post hoc comparisons revealed significant reductions in emotional/behavioral problems after intervention, $t(21) = 7.67$, $p < .001$, but no significant change in scores for the control group, $t(15) = 2.08$, $p = .05$ (see Table 1).

In order to test the efficacy of the intervention across gender groups, independent samples t-tests were also conducted to test gender differences on change scores (pretest minus posttest) for each group outcome and for the experimental condition only. There was no significant difference between boys ($M = 5.70$, $SD = 1.42$) and girls ($M = 4.92$, $SD = 2.64$) on the amount of change they reported in KAS, $t(20) = .84$, $p = .411$. Moreover, boys ($M = 3.60$, $SD = 1.03$) did not differ significantly from girls ($M = 3.31$, $SD = 1.01$) on the amount of change that they reported in the coping/adjustment scale, $t(20) = .68$, $p = .507$. As expected, boys ($M = 6.70$, $SD = 4.42$) did not differ significantly from girls ($M = 6.25$, $SD = 3.69$) in the amount of change they evidenced in SDQ, $t(20) = .26$, $p = .797$.

Finally, in order to test the efficacy of the intervention across different age groups, we divided the experimental group into two subgroups: children (individuals 6–11 years of age; $n = 12$) and adolescents (individuals 12–15 years of age; $n = 10$). Independent samples t-tests were also conducted to test age group differences on change scores regarding KAS, coping/adjustment scale and SDQ. Contrary to initial expectations,

children evidenced a greater increase in their knowledge about autism (M = 6.50, SD = 1.66), compared to mid-adolescents (M = 3.80, SD = 2.20); $t(20)$ = 3.68, p = .001. However, mid-adolescents reported greater decreases in their coping/adjustment difficulties (M = 3.93, SD = 1.08), compared to the children's group (M = 3.02, SD = .74); $t(20)$ = 2.31, p = .031. Nevertheless, regarding the SDQ, no significant difference on change scores between the two groups emerged, $t(20)$ = 2.02, p = .06, although there was a trend for older participants to report a greater decrease in emotional and behavioral problems (M = 8.20, SD = 2.86), compared to younger participants (M = 5.00, SD = 4.24).

DISCUSSION

The present study sought to investigate the efficacy of a psychoeducational group designed to address the needs of siblings of children with autism spectrum disorders. Specifically, it was hypothesized that participating in the psychoeducational program would increase group members' understanding of autism, as well as improve their psychosocial adjustment and emotional well-being. The first hypothesis was confirmed by the results. Initially, the group participants evidenced little awareness of their brother's/sister's disability, as it was shown by the pretest scores: however, their understanding of ASD significantly increased after participating in the group intervention, which is in line with previous studies on sibling support groups (Cooke & Semmens, 2010; Lobato & Kao, 2002; Smith & Perry, 2004).

Regarding the reduction of adjustment difficulties and emotional/ behavioral problems in group participants (second and third hypothesis), the study's findings appear to be equally supportive. Specifically, results from the pretest are consistent with the available sibling literature which indicates poor emotional adjustment, problematic/dysfunctional behavior, and internalized or externalized problems in siblings of children with ASD (Gold, 1993; Griffith et al., 2014; Hastings, 2003; Mascha & Boucher, 2006; Orsmond & Seltzer, 2007; Rodrigue et al., 1993; Ross & Cuskelly, 2006). However, these adjustment difficulties were remarkably reduced at posttest for the intervention group, but not for the control group. In addition, the change in mean scores was large and clinically meaningful, as indicated by the large effect sizes found. This pattern of results is also in accordance with previous studies, which demonstrated a significant reduction in sibling emotional and behavioral problems following group participation (e.g., Lobato & Kao, 2002).

Notably, the changes reported were statistically significant for both male and female participants, as it was expected by the last hypothesis of this study. Therefore, the psychoeducational group program appeared to be

effective, regardless of participants' gender. However, departing from our initial expectations, younger participants were more likely to acquire valid information about autism, whereas older participants were more likely to evidence a decrease in their coping/adjustment difficulties following participation. It is possible that younger children are not yet in position to have a full understanding of the condition of autism, probably due to immaturity or limited cognitive ability, or due to their parents' unavailability/inability/unwillingness to discuss this sensitive issue properly with them. Therefore, it is likely that the material covered during the group positively impacted siblings knowledge, but it is also possible that attending the group motivated participants to engage in more discussion about ASD with their parents. On the other hand, the greater decrease in baseline ratings of coping/adjustment difficulties observed in adolescents—compared to the children's change scores—may be a regression artifact, since older participants reported significantly more adjustment problems than younger participants at pretest (see Table 2). It could also mean that older participants probably found the coping skills training more relevant and/or the coping strategies easier to apply in everyday situations. Alternatively, it could simply reflect the greater psychosocial difficulties one encounters upon entering adolescence, leaving more room for improvement during the group intervention.

This study is interesting for several reasons. First, it represents the first investigation of the effects of a psychoeducational group for siblings using a strong research design, in comparison to other published studies. Further, youth spanning a wide age range was included in the intervention groups, thus making it possible to take into consideration developmental issues when evaluating the group's efficacy. Second, the results support the value of psychoeducational groups in providing valid information and improving the overall adjustment of the siblings of children with a developmental disability and, in particular, with ASD. Psychoeducational groups are

Table 2 Means (and Standard Deviations) of Outcome Measures Divided by Age Category for the Experimental Group Only

	Children		Adolescents	
	(n = 12)		(n = 10)	
	Pre	Post	Pre	Post
Knowledge of ASD	6.92 (2.46)	13.42 (1.73) [a]	12.30 (3.46)	16.10 (1.52) [a]
Coping/adjustment	11.35 (1.31)	8.32 (1.32) [a]	13.30 (2.10)	9.37 (1.59) [a]
SDQ –total difficulties	10.17 (7.10)	5.17 (3.27) [a]	14.80 (6.28)	6.60 (4.50) [a]

Note. [a] Pretest vs. Posttest means differ significantly ($p \leq .001$)

considered a comprehensive, versatile, and cost-effective type of group counseling (Gladding, 2015) and their application to this specific population seems a worthwhile endeavor. Third, the current investigation shows that the same CBT techniques could be applied within a group setting for the reduction of various socioemotional difficulties and adjustment problems across a wide age range, i.e., from first graders up to mid-adolescents. These findings reinforce the existing literature supporting the implementation of these techniques even in children under the age of seven presenting various symptoms and difficulties (King et al., 1998; Ronen, 1993; Sanders, Shepherd, Cleghorn, & Woolford, 1994; Silverman et al., 1999). That being said, comparisons across age categories of the relative effectiveness of the intervention program revealed a more subtle pattern of results. Specifically, children are more likely to benefit from the information provided about the disability, whereas adolescents are more affected by the group activities that target their adjustment difficulties. These results invite us to consider tailoring lesson content and group activities to best suit the developmental needs of specific age groups. They could also have important implications for the design and implementation of prevention and early intervention programs.

Practical Implications

Running a psychoeducational group for siblings of children with ASD presents some challenges that are unique for this particular type of group. First of all, regarding the inclusion criteria, it is recommended that the affected member of the family should present no type of developmental disorder other than ASD and should not have a comorbid disorder (e.g., cystic fibrosis). Nevertheless, it is advisable to include siblings of children with varying symptoms of autism (from mild to more severe ones) to facilitate rich group discussions and achieve greater support among group members. We also recommend keeping the group size below 8 members to facilitate processing of the activities and the emergence of the therapeutic factors. This is important given that living with a brother or sister with ASD puts young people at an unusual personal stress level, so that they need more space to feel comfortable and express themselves.

In addition, discussions with group members during the last two sessions revealed that they found the application of problem-solving skills and/or skills for creating and maintaining meaningful friendships (sessions 5 and 6, respectively) particularly helpful. Group members often reported encountering difficulties in their interpersonal relationships (had few intimate friends, experienced ridicule and

isolation, appeared wary of approaching members of the opposite sex): however, mainly by applying the "Ladder of success" (session 5), they were able to develop a step-by-step action plan to improve their social situation (e.g., some group members started revealing the truth to friends and acquaintances regarding the affected sibling, others asked a girl/boy for his/her phone number, etc.). Further, the story-telling technique mainly used in session 2 (second activity) and session 7 (the "sad poppy"), but also as a prelude to most of the group activities, was also found to be insightful in that by hearing "other people's stories" group members noticed that they were not the only one having (negative) thoughts, fears and concerns (normalization of experience). This story-telling technique might also have made them feel more comfortable, particularly the shy members, as they realized that they were not required to expose very personal material to the group, at least not from the outset (see also Brouzos, Vassilopoulos, & Moschou, 2016). Finally, the person-centered way of group leadership helped in ensuring that each group member was treated (and valued) as an autonomous and unique person who is influenced, but not determined, by family circumstances, and that all members were allowed to express any concern in the group, even if it has little or nothing to do with their experience of having a sibling with ASD.

Limitations and Final Conclusions

At this point, it is imperative to mention the limitations of this study. The small number of participants per age group limits the generalization of the results. Also, the absence of a follow-up evaluation makes the long-term impact of the program vague. According to the study reported by Lobato and Kao (2002) any reductions in sibling externalizing problems at posttest were maintained 3 months after the intervention, whereas participant's internalized problems returned to the pre-assessment (baseline) level. In addition, most of the instruments were based on the DSM IV classification system that is no longer in use and, thus, may fail to reflect the changes to diagnostic criteria for autism brought by DSM V currently in use. Another limitation relates to the fact that data were collected exclusively by self-report and a more holistic and multi-informant approach to group evaluation is required. Finally, only a test-retest control group was included and future investigations could compare the current group intervention to an alternative intervention program to control for any nonspecific therapeutic factors.

To further advance our knowledge about sibling support groups, future larger-scale research projects should conduct more

comprehensive group outcome evaluations by taking into consideration the feasibility, acceptability, and effectiveness of these groups. Additionally, it is advisable to examine various aspects of the program, such as the number of sessions, spacing, duration, and content of individual sessions, in connection to the age or level of adjustment difficulties displayed by the typically developing children themselves. It is thus reasonable to assume that typically developing children with fewer adjustment difficulties or with a sibling with less autistic symptoms could still benefit from a "low dose" group intervention, compared to children with greater emotional and psychosocial difficulties or with a sibling with more severe autism. Further, it would be interesting to examine the effectiveness of the intervention when parallel parent support groups are run alongside, so there is the opportunity for the group leader to work with the whole family. Finally, more systemic approaches such as whole-school programs are required. These programs could focus on the sensitization of the whole school community (teachers, students, administration) about autism and its impact on family members other than the affected child, since it is well known that the school culture and climate has a profound impact on students' behavior and emotional well-being (Brouzos, 2009).

To conclude, the current study supports the effectiveness of psychoeducational groups for siblings of children with a chronic disability, which is an underdeveloped research topic so far, despite the widespread availability of such programs. The present study adds to the current knowledge regarding the potential for designing and implementing effective group interventions to support siblings of children with ASD.

REFERENCES

Bagenholm, A., & Gillberg, C. (1991). Psychosocial effects on siblings of children with autism and mental retardation: A population-based study. *Journal of Mental Deficiency Research*, *35*, 291–307. doi:10.1111/j.1365-2788.1991.tb00403.x

Banks, P., Cogan, N., Deeley, S., Hill, M., Riddell, S., & Tisdall, K. (2001). Seeing the invisible children and young people affected by disability. *Disability & Society*, *16*, 797–814. doi:10.1080/09687590120083967

Benson, P. R., Karlof, K. L., & Siperstein, G. N. (2008). Maternal involvement in the education of young children with autism spectrum disorders. *Autism*, *12*(1), 47–63. doi:10.1177/1362361307085269

Brouzos, A. (2009). *O ekpaideutikos os leitourgos symvouleutikis: Mia anthropistiki theorisi tis ekpaideysis* [The teacher as counselor: A humanistic approach to education] (3rd ed.). Athens, Greece: Gutenberg.

Brouzos, A., Vassilopoulos, S. P., & Moschou, K. (2016). Utilizing story-telling to promote emotional well-being of children with distinct physical appearance: The case of children who wear eyeglasses. *The European Journal of Counselling Psychology*, *4*, 62–76. doi:10.5964/ejcop.v4i1.96

Cooke, J., & Semmens, C. (2010). The development and evaluation of a support group for siblings of children on the autism spectrum. *Good Autism Practice*, *11*(1), 23–30.

Diener, M. L., Anderson, L., Wright, C. A., & Dunn, M. L. (2015). Sibling relationships of children with autism spectrum disorder in the context of everyday life and a strength-based program. *Journal of Child and Family Studies*, *24*, 106–1072. doi:10.1007/s10826-014-9915-6

Fishman, S., & Wolf, L. (1991). The handicapped child: Psychological effects of parental, marital, and sibling relationships. *Psychiatric Clinics of North America*, *14*, 199–217.

Gallagher, S., & Hannigan, A. (2014). Depression and chronic health conditions in parents of children with and without developmental disabilities: The growing up in Ireland cohort study. *Research in Developmental Disabilities*, *35*, 448–454. doi:10.1016/j.ridd.2013.11.029

Giannakopoulos, G., Tzavara, C., Dimitrakaki, C., Kolaitis, G., Rotsika, V., & Tountas, Y. (2009). The factor structure of the Strengths and Difficulties Questionnaire (SDQ) in Greek adolescents. *Annals of General Psychiatry*, *8*, 20. doi:10.1186/1744-859X-8-20

Gladding, S. (2015). *Groups: A counseling specialty* (6th ed.). Upper Saddle River, NJ: Pearson.

Gold, N. (1993). Depression and social adjustment in siblings of boys with autism. *Journal of Autism and Developmental Disorders*, *23*(1), 147–163. doi:10.1007/BF01066424

Goodman, R., Meltzer, H., & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child and Adolescent Psychiatry*, *7*, 125–130. doi:10.1007/s007870050057

Green, L. (2013). The well-being of siblings of individuals with autism. *ISRN Neurology*, 417194. doi:10.1155/2013417194

Griffith, G. M., Hastings, R. P., & Petalas, M. A. (2014). Brief report: Fathers' and mothers' ratings of behavioral and emotional problems in siblings of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *44*, 1230–1235. doi:10.1007/s10803-013-1969-6

Harpin, V. A. (2005). The effect of ADHD on the life of an individual, their family, and community from preschool to adult life. *Archives of Disease in Childhood*, *90*, i2–i7.

Hastings, R. (2003). Brief report: Behavioral adjustment of siblings of children with autism. *Journal of Autism and Developmental Disorders*, *33*(1), 99–104. doi:10.1023/A:1022290723442

Hastings, R., & Petalas, M. (2014). Self-reported behaviour problems and sibling relationship quality by siblings of children with autism spectrum disorder. *Child: Care, Health, and Development*, *40*, 833–839. doi:10.1111/cch.12131

Howlin, P., & Yates, P. (1990). A group for the siblings of children with autism. *Communication*, *24*, 11–16.

Kaminsky, L., & Dewey, D. (2002). Psychosocial adjustment in siblings of children with autism. *Journal of Child Psychology and Psychiatry*, *43*, 225–232. doi:10.1111/1469-7610.00015

Kamps, D., Potucek, J., Dugan, E., Kravitz, T., Gonzalez-Lopez, A., Garcia, J., & Kane, L. G. (2002). Peer training to facilitate social interaction for elementary students with autism and their peers. *Exceptional Children*, *68*, 173–187. doi:10.1177/001440290206800202

King, N. J., Tonge, B. J., Heyne, D., Pritchard, M., Rollings, S., Young, D., & Olledick, T. H. (1998). Cognitive behavioral treatment of school-refusing children: A controlled evaluation. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 395–403. doi:10.1097/00004583-199804000-00017

Lobato, D., & Kao, B. (2002). Integrated parent-sibling group intervention to improve sibling knowledge and adjustment to chronic illness and disability. *Journal of Pediatric Psychology*, *27*, 711–716. doi:10.1093/jpepsy/27.8.711

Mascha, K., & Boucher, J. (2006). Preliminary investigation of a qualitative method of examining siblings' experiences of living with a child with ASD. *The British Journal of Developmental Disabilities*, *52*(102), 19–28. doi:10.1179/096979506799103659

McLinden, S. E., Miller, L. M., & Deprey, J. M. (1991). Effects of a support group for siblings of children with special needs. *Psychology in the Schools*, *28*, 230–237.

Meadan, H., Stoner, J. B., & Angell, M. E. (2010). Review of literature related to the social, emotional, and behavioral adjustment of siblings of individuals with autism spectrum disorder. *Journal of Developmental Physical Disability*, *22*, 83–100. doi:10.1007/s10882-009-9171-7

Meyer, D., & Vadasy, P. E. (1994). *Sibshops: Workshops for siblings of children with special needs*. Baltimore, MD: Paul H. Brookes Publishing Co.

Meyer, D., & Vadasy, P. (2008). *Sibshops: Workshops for siblings of children with special needs*. Baltimore, MD: Paul H. Brookes.

Morgan, S. (1988). The autistic child and family functioning: A developmental-family systems perspective. *Journal of Autism and Developmental Disorders*, *18*, 263–280. doi:10.1007/BF02211952

Naylor, A., & Prescott, P. (2004). Invisible children? The need for support groups for siblings of disabled children. *British Journal of Special Education*, *31*, 199–206. doi:10.1111/j.0952-3383.2004.00355.x

Orsmond, G. I., & Seltzer, M. M. (2007). Siblings of individuals with autism spectrum disorders across the life course. *Mental Retardation and Developmental Disabilities Research Reviews*, *13*, 313–320. doi:10.1002/mrdd.20171

Palmieri, P. A., & Smith, G. C. (2007). Examining the structural validity of the Strengths and Difficulties Questionnaire (SDQ) in a U.S. sample of custodial grandmothers. *Psychological Assessment*, *19*, 189–198. doi:10.1037/1040-3590.19.2.189

Perry, A. (1989). *What it's like to have a brother or sister with a developmental disorder*. Unpublished manuscript, Thistletown Regional Centre, Toronto, Ontario, Canada.

Rao, P. A., & Beidel, D. C. (2009). The impact of children with high-functioning autism on parental stress, sibling adjustment, and family functioning. *Behavior Modification*, *33*, 437–451. doi:10.1177/0145445509336427

Rice, C. E., Rosanoff, M., Dawson, G., Durkin, M. S., Croen, L. A., Singer, A., & Yeargin-Allsopp, M. (2013). Evaluating changes in the prevalence of the Autism Spectrum Disorders (ASDs). *Public Health Reviews*, *24*(2), 1–22.

Richman, S. (2001). *Raising a child with autism*. London, UK: Jessica Kingsley.

Rodrigue, J., Geffken, G., & Morgan, S. (1993). Perceived competence and behavioral adjustment of siblings of children with autism. *Journal of Autism and Developmental Disorders*, *23*, 665–674. doi:10.1007/BF01046108

Roeyers, H., & Mycke, K. (1995). Siblings of a child with autism, with mental retardation and with a normal development. *Child: Care, Health and Development*, *21*, 305–319. doi:10.1111/j.1365-2214.1995.tb00760.x

Ronen, T. (1993). Intervention package for treating encopresis in a 6-year-old boy: A case study. *Behavioural and Cognitive Psychotherapy*, *21*, 127–135. doi:10.1017/S0141347300018097

Ross, P., & Cuskelly, M. (2006). Adjustment, sibling problems and coping strategies of brothers and sisters of children with autistic spectrum disorder. *Journal of Intellectual & Developmental Disability*, *31*, 77–86. doi:10.1080/13668250600710864

Sanders, M. R., Shepherd, R. W., Cleghorn, G., & Woolford, H. (1994). The treatment of recurrent abdominal pain in children: A controlled comparison of cognitive behavioral family intervention and standard pediatric care. *Journal of Consulting and Clinical Psychology*, *62*, 306–314. doi:10.1037/0022-006X.62.2.306

Silverman, W. K., Kurtines, W. M., Ginsburg, G. S., Weems, C. F., Rabian, B., & Setafini, L. T. (1999). Contingency management, self-control and education support in the treatment of childhood phobic disorders: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, *67*, 675–687. doi:10.1037/0022-006X.67.5.675

Smith, T., & Perry, A. (2004). A sibling support group of brothers and sisters of children with autism. *Journal on Developmental Disabilities*, *11*(1), 77–88.

Stoneman, Z. (2005). Siblings of children with disabilities: Research themes. *Mental Retardation*, *43*, 339–350.

Tint, A., & Weiss, J. A. (2016). Family wellbeing of individuals with autism spectrum disorder: A scoping review. *Autism*, *20*, 262–275. doi:10.1177/1362361315580442

Tomeny, T. S., Barry, T. D., & Bader, S. H. (2014). Birth order rank as a moderator of the relation between behavior problems among children with an autism spectrum disorder and their siblings. *Autism*, *18*, 199–202. doi:10.1177/1362361312458185

Verté, S., Roeyers, H., & Buysse, A. (2003). Behavioural problems, social competence and self-concept in siblings of children with autism. *Child: Care, Health and Development*, *29*, 193–205. doi:10.1046/j.1365-2214.2003.00331.x

Ward, B., Tanner, B. S., Mandleco, B., Dyches, T. T., & Freeborn, D. (2016). Sibling experiences: Living with young persons with autism spectrum disorders. *Pediatric Nursing*, *42*, 69–76.

Yalom, I. D., & Leszcz, M. (2005). *The theory and practice of group psychotherapy* (5th ed.). New York, NY: Basic Books.