Developing social and communication skills in Autistic children through mediated peer groups

Establishing a social media portal to ease creation of peer groups for parents and families

Tag Words: Autism, ASD, mental disabilities, communication, social skills, peer groups, development

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Summary: (AT)
A defining symptom of Autism Spectrum Disorders (ASD) is an observed shyness and lack of social interaction in patients beginning from a very young age. This tendency continues as patients get older, which combined with the other associated symptoms, makes it difficult for patients living with ASD to acquire jobs and easily integrate with society. A number of studies have shown that the presence of other children, Autistic or not, helps promote and improve social interaction in young Autistic children, aiding in overall general development. Studies have also suggested that a non-formal, natural environment is most beneficial for this type of treatment. In order to promote the organization of non-formal “play-groups” and in order to ease their creation for parents of ASD children, we seek to create an online portal to allow quick access to pertinent information, as well as the inclusion of a forum in order for parents and families to discuss concerns and organize groups.

Video Link: http://www.youtube.com/watch?v=xSakr0aLN4g

Service Project: https://www.facebook.com/AutismPeerGroupsNJ

Autism Spectrum Disorder and Impaired Social Development (MAC)
The developmental syndrome known as Autism is a group of neurodevelopmental disorders collectively referred to as Autism Spectrum Disorders (ASD) (1). The term spectrum refers to variety of symptoms, skills, and levels of impairments that can be associated with ASD. The main deficits of ASD can be delineated into three distinct areas: reciprocal social interaction, communication, and restricted and repetitive behaviors (2). The unusual pattern of development associated with ASD is evident within the first year of a child’s life. However; many children are not diagnosed with ASD until later in their lives. ASD was previously considered a relatively rare disorder where 1 in 10,000 children were affected, but through advances in diagnostic techniques, it is now believed that 1% of children are affected (3).
**Diagnosing ASD:** (MAC)
Autism Spectrum Disorders are currently diagnosed using guidelines outlined in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition – Text Revision* (DSM-IV-TR) (4). ASD is often diagnosed using a two-stage process: 1) Screening, and 2) Comprehensive diagnostic evaluation. The first stage consists of a general developmental screening performed by an early childhood health care provider (i.e. Pediatrician) during well-checkups. As recommended by the American Academy of Pediatrics, well-checkups should include specific ASD screening at 18 and 24 months (5). Children who display some aspect of a developmental problem during the screening are designated as requiring additional testing and move on to the second stage. The second stage involves a comprehensive evaluation by a team of doctors with a wide range of specialties including: a neurologist, a psychologist, a psychiatrist, and others experienced in diagnosis ASD. This stage in the process focuses on assessing the child’s cognitive level, language, and adaptive behaviors. The outcome of this two-stage diagnosis process will determine whether treatment and interventions are needed (6).

**Developmental Milestones:** (AT)
The primary methods for assessing whether or not a child may have Autism include behavioral and physical exams. Chromosomal analysis may also be done; however, genetic tests are primarily used to rule out the possibility of other genetic disorders. Tests such as hearing exams and tests for lead poisoning are also performed in an effort to rule out other possibilities as well. However, as Autism is a developmental disorder, it can be identified by the lack of specific, expected behaviors, which correlate to growth and brain development at various ages (7). The major developmental indicators for Autism are: no babbling or hand gestures by 12 months of age, no single word speech by 16 months of age, no spontaneous 2-word phrases by 2 years, or any loss of language or social skills observed at any age. If a physician does not identify any of these issues, the child generally does not need additional screening. However, there are a number of other milestones that should be watched for to ensure normal childhood development (7).

**2-4 Months:** (AT)
At 2 months of age, the child should begin becoming socially conscious. The child should be observed to track faces and recognize people and objects from a distance. Rudimentary language development should also be occurring and is marked by cooing and gurgling sounds. The child should also respond to sounds. If the child doesn’t respond to loud sounds or is unable to track moving objects, the child should be brought to a physician for further analysis (7).

**6-9 Months:** (AT)
Language and memory development should be progressing, marked by acknowledgment of familiar faces and dislike of strangers. Verbal communication should progress to familiar syllables as well as a willingness to “converse” with parent. It is also around this time that the child should break the “out of sight-out of mind” mentality, indicated by active searching for hidden objects after presentation. If the child doesn’t attempt to reach for objects, doesn’t show
preference for caregivers, or doesn’t make vowels sounds, a physician should be consulted immediately. Additionally, stiff, tight muscles, or extremely floppy, rag doll-like behavior could be indications of developmental anomalies as well (7).

1-2 Years: (AT)
Within this time period, the child should be gaining a degree of independence, such as being able to dress and undress and walk unassisted. Single word speech should have started and the child should have evident knowledge of uses for ordinary objects such as spoons and brushes. Pretend play should also be starting (7). At the 2 year mark, social and language development should be very clear. The child should be able to form 2-4 word phrases, identify named objects, and follow simple directions. The child should also be observed to repeat words in conversation and begin inclusion of other children in play. Excitement around other children can also be noted (7).

Core Symptoms of ASD: (MAC)
As previously mentioned, children affected by Autism Spectrum Disorder do not follow normal patterns when developing communication and social skills. The parents of children affected with ASD are often the first to become aware of the unusual behaviors of their children. These unusual behaviors may not be evident until the second or third year of a child’s life, yet for others it may be evident within the first year of the child’s life. The symptoms associated with ASD are vastly different for each child affected, however; they are categorized into three areas: 1) social impairment, 2) communication difficulties, and 3) repetitive and stereotyped behaviors (7).

1) Social Impairment – The vast majority of children who suffer from ASD experience difficulty in engaging in everyday social interactions. They may make little eye contact, fail to respond to others or respond unusually. Research shows that children with ASD often do not respond to or understand emotional or social cues leaving them unable to properly react to situations.

2) Communication Difficulties – For children with ASD, reaching developmental milestones can be difficult. For example, by age one, normal infants should be able to say a few words, react to their name, and point; children with ASD may not. Instead they fail to respond to their name; they are slow to develop gestures, such as pointing; and develop language at a delayed pace. As children with communication difficulties grow up, they may become anxious, depressed, or even aggressive.

3) Repetitive and Stereotyped Behaviors – ASD symptoms that fall into this third category include unusual (i.e. typical “Autistic”) behaviors and these symptoms may be extremely noticeable, or mild/discreet. Typical “Autistic” behaviors, also called stereotyped behaviors, are often repetitive in nature. Children with ASD may walk in specific patterns, or become fascinated with objects that move in a constant motion (E.g. a wheel). These children often do best with a daily routine but a slight change in a specific aspect of that routine, such as having to brush their teeth a different time, may result in behavioral outbursts.
The Power of Social Interactions (MAC; AT)
Two defining behavioral characteristics of children with ASD are deficits in functional language and social interaction. These deficits in social behavior can inhibit the development of intelligence, language, and related skills, which are imperative to normal childhood development (8). In the past, children with ASD were placed in specialist schools where they received training in communication competence. However, within the last 10 years, education policies have encouraged the inclusion of ASD children into local schools where such specialized training is not available (9). This change brought about a need for new ways to help attain communication competency in children with ASD. A number of studies have shown that peer-mediated strategies help promote and improve social interaction in young Autistic children, aiding in overall general development.

It is believed that treating ASD early by using school-based programs and proper medical care can significantly lessen the symptoms of ASD leading to better development (10). There is no “best treatment” for ASD, but behavior therapy, more specifically Applied Behavior Analysis (ABA) is a widely accepted treatment. ABA focuses on reinforcing new desirable behaviors, such as speaking and playing, and decreasing undesirable behavior. ABA is a school-based program involving one-on-one child-teacher interactions. Some ABA interventions include (1):

1) **Verbal Behavior** – uses prompting to guide children from echoing behaviors to functional communication.

2) **Pivotal Response** – focuses on identifying and improving pivotal skills, such as self-management, to affect a range of behavior responses.

3) **Interpersonal Synchrony** – focuses on establishment and maintenance of engagement with others through developing social skills.

The majority of these interventions are aimed at increasing and improving the skills necessary to create social interactions and avoid negative responses (6).

Studies on ABA treatments focus on increasing interaction with peers, thereby improving social and linguistic skills. A number of early studies used a formal teaching environment, however, recent studies show that a more naturally created environment yields more beneficial results. For example, a study conducted at the Hammill Institute of Disabilities created clubs surrounding the specific interests of children between ages 9 and 12, whom exhibited ASD. These clubs were designed in order to promote inclusion of other peers who did not exhibit ASD. The clubs had 2 weekly sessions at the normally scheduled school lunch hour. Data was taken during 16 of these sessions and all subjects observed an increase in peer interaction and verbal initiation with minimal assistance or training (10).

This study analyzed the number of unprompted social interactions initiated by the target child (i.e. one with ASD) in comparison to a typical peer. Initiations were determined at camp (under baseline conditions, and during an intervention period), as well as in school. During baseline conditions, the children participated in his or her natural social environment, under their habitual
conditions. During the intervention period, the target children were placed into various activities which were created using a preferred interest of each targeted child as a theme. During baseline conditions, the target children did not make any effort to initiate an interaction with their peers. In contrast, during the intervention period, all target children increased the number of initiations they made. This study shows that rapid improvements in social behavior are possible for children with ASD, with minimal direct intervention efforts when their preferred interests are considered (13).

Further studies have supported the creation of a natural environment for encouraging peer interaction. A second study performed at the Hammill Institute of Disabilities which looked at sibling imitation. The study designated a “group-play” between a child with ASD and a developing sibling. These play sessions were conducted and filmed within the child’s home. Over the course of the study, nearly all children experienced an increase in sibling imitation and joint interaction (1).

Peer mediation procedures, such as peer networks, have been used to promote social competency among individuals with ASD and typical peers. Peer networks are groups of individuals who have an understanding of the individual with a disability and who have an impact on that person’s life (8). A study by Garrison-Harrell, 1997 indicated that the utilization of a peer network intervention including an augmentative communication system increased the frequency and duration of peer interactions in children with ASD (8).

A study by The Council for Exceptional Children, a collaboration between a number of nationwide schools and organizations including Southwest Missouri State University, the Kentucky Autism Training Center, among others, analyzed the potential of peer group interventions in a public school setting (11). The familiarity of teachers and peers seen repeatedly throughout the public school system can be considered an extended peer network in this scenario. To ensure consistency, a highly structured class agenda was used.

This experiment was performed in a 3rd grade classroom with a class size of 19 children, 3 of which were diagnosed with Autism: Ann, Roberto, and Tony. The experiment was conducted 3 to 4 times a week and the children were analyzed based on the length of interaction time. A parallel experiment was also performed, involving social groups of 34 children, including the 3 Autistic subjects (11).

All three children showed tangible improvement in both the cooperative learning group and social groups, increasing interaction times from 31 seconds to 151 seconds or greater, which compares similarly to peers not diagnosed with Autism. Even in scenarios where benefits were minimal such as Tony’s performance in Social Groups, the improvement demonstrated was about 50%. Additionally, the improved performance of the smaller cooperative learning groups versus the social groups with larger class size suggests that peer familiarity improves social progress. The improvements seen in the no intervention control were attributed largely due to those measurements being taken after the experiment. Therefore, much of the improvements seen in the no intervention controls may be due to habits formed previously in the cooperative learning groups and social groups. Even so, the lack of structure still resulted in a diminishing of social skills in Tony (11). Overall, however, the results definitively show that structured peer
intervention provides immense benefits in terms of social development for Autistic children, and that this can be augmented by keeping the same peers.

Another peer-mediated approach used to promote the social integration of ASD children is the “circle of friends” strategy. This approach recognizes peer-groups to be a positive and constraining influence on individual behavior (9). The supportive network created by the “circle of friends” approach, provides the ASD child with positive feedback from his or her peers. The main benefits of the “circle of friends” approach, when applied to children on the autistic spectrum are (9):

1) To create a setting where the child can be in supportive contact with peers
2) To provide a context that will allow the teacher to focus on the social interaction deficit
3) To promote understanding of peer culture in educational settings

It is important to note, that the observed long-term increase in successful response and initiation attempts of children with ASD in the above behavioral interventions is mainly due to the peer-mediated approach. The main goal of this approach is to form, develop, and improve the social skills of children with ASD that may later lead to the formation of friendships (9). The continued use of peer-mediated approaches provides the children with a friendly environment in which they may have the ability to practice, generalize, and establish the skills they were exposed to even after the end of the intervention, so that they may incorporate those skills into their own repertoire.

Community Action: Establishing Social Media Resources to Enable Caregivers the Opportunity to Meet in Peer Groups (AT)

Autism Spectrum Disorders have a number of possible manifestations, generally categorized into Asperger’s Syndrome, Pervasive Developmental Disorder, Rett’s Disorder, or Childhood Disintegrative Disorder. While these different types of disorders present differently, the core symptoms remain largely the same due to underdevelopment: social impairment, communication difficulties, and other behavioral symptoms.

Unfortunately, at this time, there is no definitive cure for Autism and treatment options seek to help ease the primary symptoms for patients living with the disorder. Current treatment options include anti-psychotic medications, dietary treatments, behavioral treatments, and a number of alternative treatments seek to mitigate abnormalities in social and communication development. Unfortunately, a large number of these treatments are generally ineffective and, more worrisome, can pose significant health risk to patients. Medical and dietary treatments are of highest risk in this case. The majority of medications and dietary interventions are largely untested in Autistic patients and can result in vastly different effects patient to patient. Coupled with this is the inherent risk of possible side effects, including seizures, heart failure, or permanent brain damage depending on medications, and malnutrition depending on diets. These negative side effects have even been observed to be magnified in Autistic patients. Medical and dietary regimens carry the additional burden of cost, being difficult for families of lesser income to maintain indefinitely. The alternative treatment methods are, likewise, largely untested and not approved by the FDA. Studies have shown that approximately 10% of these therapies are considered dangerous as well
as having unknown benefits, if any (6).

Compared to medical and dietary interventions, the use of behavioral therapy in peer groups is generally favored because it is of significantly lower risk. Several studies have found that behavioral therapy using peer groups is generally effective (1, 8, 10, 11, 13), particularly in younger children. Additionally, in our review of the literature, it would appear that it is of significantly lower risk compared to its alternatives. Of course, the biggest question pertains to its efficacy. Luckily, a number of focused studies have addressed this and found that it is generally effective. The benefits of utilizing peer groups, however, appears most pronounced in younger children, though positive improvement of social and communication skills can be observed in individuals participating in peer groups at any age. A natural environment, such as a school club or “home play” have also demonstrated added effectiveness in aiding Autistic children develop socially, and as there is no biochemical element to this particular therapy, the negative side effects are thus limited to the general risks encountered during social interaction. Luckily, many of these risks can be avoided with the presence of a mentor to mitigate and resolve conflicts. As such, this is a logical course of treatment to promote.

We searched our local area for any such peer groups and found very little coordination between families and organizations, despite the presence of an Autistic community in the state of New Jersey. As a result, we sought to leverage social media in order to ease the creation, organization, and use of Autism Peer Groups in our local community. As a first step, we have created a Facebook page titled “Autism Peer Groups NJ,” which can be found at the following URL: https://www.facebook.com/AutismPeerGroupsNJ. As part of the page, we created a basic forum, categorized by county, in order for parents and families of Autistic children to easily communicate information and organize peer groups with one another. It would also provide a simple communication outlet for schools and organizations seeking to provide support. As a centralized hub of communication, it could also be used to distribute news and other information regarding the disorder. In order to develop the targeted user base, which the page is dependent on, we have reached out to a number of Autism Awareness groups in the state such as Autism NJ to help advertise the page. In our communications with these groups, we have also sought to cooperate and integrate directly with their websites, which would both increase user base and provide an easy resource for families and caretakers. We have performed additional, independent advertising at organizations dedicated to helping people living with Autism and similar disorders such as the Freehold Self-Help Center in Freehold, NJ through the use of flyers and in-person communications. These communications can be found below and we are still awaiting further reply. Lastly, we have also created a YouTube video in order advertise the page to a broader audience. The video link is included at the beginning of this document. As the user base and page grow, the page can be expanded to its own website, adding additional resources at users’ request. Before true community benefit can be realized, however, the support of dedicated resources and organizations such as Autism NJ and the Freehold Self-Help Center are paramount and we will continue to promote the benefits of Autism peer groups.

**Reaching out to Caretakers (AT + MAC)**

In order to grow our Facebook page's user base, it was necessary to advertise its existence. However, the target audience of individuals and families living with ASD is somewhat specific
and more difficult to reach. In order to do so, we contacted the following caretakers and healthcare professionals:

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<th>Name</th>
<th>Email</th>
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<td>New Jersey Psychiatric Association</td>
<td><a href="mailto:psychnj@optonline.net">psychnj@optonline.net</a></td>
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<td>Jeanne Marron, Ph.D</td>
<td><a href="mailto:jmarron@westbergen.org">jmarron@westbergen.org</a></td>
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<tr>
<td>Linda A. Reddy, Ph.D</td>
<td><a href="mailto:reddy@fdu.edu">reddy@fdu.edu</a></td>
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<tr>
<td>Barbara Menzel, Psy.D</td>
<td><a href="mailto:bjmenzel@optline.net">bjmenzel@optline.net</a></td>
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<td>Carol Turner, Ed. D</td>
<td><a href="mailto:cjteddpc@earthlink.net">cjteddpc@earthlink.net</a></td>
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<tr>
<td>Jed Baker, Ph.D</td>
<td><a href="mailto:janddbaker@aol.com">janddbaker@aol.com</a></td>
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<tr>
<td>Betty Christie, MSW, LSW</td>
<td><a href="mailto:smokies@optonline.net">smokies@optonline.net</a></td>
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<tr>
<td>Betty Jarusiewicz, Ph.D</td>
<td><a href="mailto:doctorjarus@home.com">doctorjarus@home.com</a></td>
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We sent the following email format asking their respective opinions regarding behavioral peer group therapy for ASD patients and our Facebook page. We have additionally asked them, if they feel it beneficial, to introduce their patients and families to our page. We have also followed up by contacting their respective offices and initial response has been positive, though we are still waiting for a response from a majority of our contacts.

The email read as follows:

Dear ________,

I am a student enrolled at Rutgers University, School of Environmental and Biological Sciences. My partner and I are currently taking a course in which we looked into issues affecting families with children diagnosed with Autism Spectrum Disorder. As part of our research, we examined a number of studies focused on various treatment and management methods. Throughout our research, the use of peer groups consistently showed positive outcomes, with significantly less risk when compared with other treatment methods such as anti-psychotic medications.

In an attempt to make these findings more accessible and in order to provide a portal to additional information on ASD for families in the New Jersey area, my partner and I have created a Facebook page (https://www.facebook.com/AutismPeerGroupsNJ) titled “Autism Peer Groups NJ,” currently a work in progress. We have additionally included a forum on the page to allow families to share information, find and initiate peer group therapy within their respective counties.
As a respected professional, we would like to know your opinion on the efficacy of peer group behavioral therapy for individuals diagnosed with ASD. Additionally, we would appreciate your opinion on the use of online resources such as our recently created Facebook group in order to network families in the area and whether or not you feel that they would be a beneficial tool.

We feel that the positives of Autism peer groups and the convenience of an online forum would be greatly positive for the Autism community of New Jersey. If you feel that the use of online networking resources would be helpful to families affected by Autism, we would appreciate it if you could introduce patients to our webpage. We thank you very much for your time and we look forward to hearing from you.

Sincerely,

Andrew Tang & Michael Coscia

After contacting many caretakers and healthcare professionals asking about their respective opinions regarding behavioral peer group therapy for ASD patients and our Facebook page we have received a response from Jed Baker, Ph.D. The response email is as follows:

I am fully in support of your efforts and have been creating positive peer environments for ASD students for many years. I have written about creating peer buddy programs in my social skill books (Social Skills Training (Baker, 2003) and Preparing for Life (Baker, 2005). The research shows it is a benefit to peers as well as the targeted ASD students. I would like to send you a video from ABC news coverage of a peer program we created in Millburn schools some years ago to help reduce isolation and bullying of ASD kids. It will be sent through WeTransfer.com in a separate email. Perhaps this is something you can post on your website?

Jed Baker, PhD  
Director of The Social Skills Training Project  
www.socialskillstrainingproject.com  
www.jedbaker.com

We have seen preliminary growth of our user base and hope that continued collaboration with organizations such as AutismNJ and other medical professionals will spread knowledge of the effectiveness of peer group therapies for ASD and lead to growth of our Autism Peer Groups NJ web page.
Letter to the Editor (AT)
AutismNJ
information@autismnj.org

Dear Editor,

I am a student enrolled at Rutgers University, School of Environmental and Biological Sciences. My partner and I are currently taking a course on ethics in science, in which we looked into issues affecting families with children diagnosed with Autism Spectrum Disorder. As part of our research, we examined a number of studies focused on various treatment and management methods and personally felt that many would benefit from greater availability of this information. Throughout our research, the use of peer groups consistently showed positive outcomes, with significantly less risk when compared with other treatment methods such as traditional anti-psychotic medications. Additionally, patients saw improved results in trials that used more natural environments. For example, the studies that showed the most positive results took place in school or home settings. Improvements in the areas of social interaction, communication, and language skills were observed in both child and adult peer groups, although children appeared to benefit most from the trials.

In an attempt to make these findings more accessible and in order to provide a portal to additional information on ASD for families in the New Jersey area, my partner and I have created a Facebook page (https://www.facebook.com/AutismPeerGroupsNJ) titled “Autism Peer Groups NJ,” currently a work in progress. We have additionally included a forum on the page to allow families to share information and initiate peer groups within their respective counties.

As an editor of a large resource for Autism awareness, we feel that your ability to display information on the benefits of Autism peer groups would greatly benefit the community. If you felt that it might be beneficial, inclusion of our recently created Facebook page to your website would also provide a quick, logical link for viewers of your website to connect to other families and the larger community. The forum format of the page would allow an easily moderated resource for people to communicate news and information as well as plan gatherings. Should network traffic increase and the forum grows, a dedicated webpage could be set up to accommodate greater demands. Overall, we feel that increasing awareness of the potential benefits of Autism peer groups would help a great number of families in the NJ area, promoting a low-risk ASD management method. The inclusion of a forum would allow a medium for patients and families to communicate easily, allowing families to actively create their own, nearby groups.

We feel that the positives of Autism peer groups and the convenience of an online forum would be greatly positive for the Autism community of New Jersey and the support of an established resource such as yours is paramount to success. We thank you very much for your time and hope that you consider our proposal.

Sincerely,
Andrew Tang
Dear Editor,

Good afternoon. I am currently an undergraduate student at Rutgers, The States University of New Jersey. This past semester I have been enrolled in a course in which a group of students take on a service project that pertains to a current scientific issue that is important to them. Over the course of developing this project, my colleague and I came across a vast amount of information regarding the issue of Autism Spectrum Disorder (ASD) and the many deficits associated with the disorder. It is believed that an astounding 1 in 100 children are affected from ASD, and if left untreated, children with the disorder will have difficulty acquiring jobs and integrating with society in the future.

Autism Spectrum Disorder is a group of neurodevelopmental disorders in which the vast majority of children experience difficulty in engaging in everyday social interactions. Children with ASD often have difficulty reaching developmental milestones leading to extensive communication deficits. They make little eye contact, fail to respond to others or respond unusually. As these children grow up with communication difficulties, they may become anxious, depressed, or even aggressive. Currently, the exact origins of Autism Spectrum Disorder are unknown, but research on the subject suggests that genetics and environmental factors play a role. There is no specific cure for ASD; however, there are a number of treatments that are aimed towards lessening the symptoms associated with the disorder.

A number of studies have shown that behavior therapy, which focuses on increasing interactions with peers and thereby improving social and linguistic skills, is currently the most effective treatment. The presence of other children, with ASD or not, helps promote and improve social interaction in young ASD children, aiding in overall general development. Studies have also suggested that a non-formal, natural environment is most beneficial for this type of treatment.

In order to promote the organization of non-formal “play-groups” and in order to ease their creation for parents of ASD children, my colleague and I created an online portal to allow quick access to pertinent information, as well as the inclusion of a forum in order for parents and families to discuss concerns and organize groups. I am reaching out to your organization to help us spread the word about our online portal. I believe that by incorporating the information I have provided above into an article in New Jersey Family, we can spread the word on ASD and help mitigate the difficulties struggling families with ASD affected individuals face. Our online portal url is: https://www.facebook.com/AutismPeerGroupsNJ. Please note that it is still a work in progress and the more people that join/use it the better it will be for families.

Thank you for your consideration and your help.
Michael Coscia
References:


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