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Running Head: RECIPROCAL RELATIONSHIPS BETWEEN TYPICAL STUDENTS AND
THOSE DIAGNOSED WITH AUTISM

The Benefits of Fostering Reciprocal Relationships between Children with Autism and their
Typically Developing Peers
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Abstract

Autism is a disorder characterized by repetitive and restrictive patterns of behavior as well as deficits in development of social skills and purposeful language and communication. Students diagnosed with autism have been found to benefit greatly from fostering social interactions with their typically developing peers, gaining valuable skills such as initiation, attention, and response. This paper summarizes the efforts of Project New Friends which aimed to educate typically developing peers, as well as methodically increase social behaviors through implementation of a structured relationship-building class for three students diagnosed with autism and nine typically developing eighth grade peers. It is the persistent interactions with peers that allows students with autism the opportunity to develop and generalize social skills they lack.

The Benefits of Fostering Reciprocal Relationships between Children with Autism and their Typically Developing Peers

Autism is coded as an Axis I disorder in the *DSM-IV-TR*, which means that the symptoms are seen as variable from person to person and also can diminish or completely disappear with the proper treatment (American Psychiatric Association, 2000). Its recent distinction as an Axis I disorder (It changed from Axis II with the text revision.) is indicative of more advanced treatments and a greater general understanding of the disorder.

Autism is characterized by repetitive and restrictive patterns of behavior as well as deficits in development of social skills and purposeful language and communication. Examples of repetitive and restrictive behaviors are a preoccupation with specific objects, strict adherence to nonfunctional routines, or repetitive motor mannerisms such as flapping. Deficits in social skills and interaction are impairment in the use of nonverbal behaviors related to effective socialization, decreased social reciprocity, and failure to develop age appropriate peer relationships. Lastly, difficulties with language and communication are evident by the delayed development or complete absence of spoken language, repetitive language use (such as echolalia), and lacking or decreased appropriate imitative play. (American Psychiatric Association [DSM-IV-TR] 2000)

When it first began to gain prevalence, the disorder was attributed to bad parenting, essentially ‘refrigerator moms’ who showed little interest in their children and were inconsistent in their teaching of social skills and warm parenting. However, as it began to affect a wider population it was recognized that autism is clearly caused by something more complex. Although no specific genes or environmental causes have been identified, researchers and professionals agree that there is some interaction between these two which has led to such a sharp increase in

diagnosis. The Centers for Disease Control and Prevention estimates the current prevalence rate of Autism Spectrum Disorder (ASD) at 1 in every 110, “making it the fastest growing developmental disability in the United States” (Sansotti 2010, 257). The implications of this are immense and widespread; the general public needs to gain a more comprehensive understanding of autism, teachers need extensive preparation (even if they are not special educators), and classrooms need to be outfitted with greater support due to increased mainstreaming of these students. Although there is some speculation pertaining to over-diagnosis in relation to the increase in diagnosed cases of autism, it is clear that further research is needed to elucidate underlying causes. An increased understanding will likely lead to more effective treatments and has the potential to seriously decrease prevalence rates.

For most children, social skills such as orienting to name, following eye gaze, and developing joint attention are instinctual and therefore do not need to be taught. However, “Unlike their peers, children and adolescents with ASD rarely learn skills vicariously”, meaning that students with autism require additional, more intensive social skills training programs which would likely seem redundant to their typically developing peers (Sansosti 2010, 270).

In her study investigating “The effects of peer training on the social interactions of children with autism spectrum disorders”, Mindy Krebs (2010) found that both of her participants with autism had significant increases in their targeted social behaviors. Krebs developed a program which trained typically developing peers to appropriately model and then reinforce students with autism when they maintained eye contact, maintained close proximity to peers, directed or initiated conversation, and maintained the topic of conversation presented by the peers. Typical peers were trained through role playing and an intensive review of social behaviors related to the study. Upon completion of this training, the peers met the students with

autism in a therapy room for 20-40 minute sessions where they played age-appropriate games. Results of this study indicated that peer prompting was of particular importance in production of targeted behaviors, which confirms the difficulty that students with autism have in spontaneously interacting with people around them.

Gonzalez-Lopez and Kamps (1997) had similar results in their study, when they found that students with autism had increased frequency and duration of interactions with their typically developing peers. For their program, four students with autism in an inclusive classroom and six typically developing kindergarteners met three to four times per week for 20-25 minute sessions. Prior to engaging in the sessions, typical peers were trained in behavior management skills as giving direct and simple instructions, modeling behaviors appropriately, praising socially appropriate behaviors, and extinguishing problem behaviors by ignoring them. Target behaviors for students with autism were greeting their peers and using names, imitating and following directions, sharing and taking turns, and asking for help when necessary. These skills are important for basic socialization and early acquisition and opportunities to model them are essential. Results of the study showed that there was an increase in overall interaction time for all children with autism from baseline to intervention which supports the claim that simply increasing the interaction opportunities for these students is imperative for acquisition of valuable social skills.

In addition, Gonzalez-Lopez and Kamps (1997) found that supplementing social skills training with opportunities for reinforcement further increased the use of these social behaviors by the students with autism. Simple teacher feedback in addition to peer support then is optimal for development of these skills and can be easily implemented in classrooms. Another benefit of this particular program was the decrease of inappropriate behaviors for all students with autism.

For these students, inappropriate behaviors ranged from aggression towards other students to simple non compliance. Oftentimes these problem behaviors are extremely disruptive to both teachers and students in mainstreamed classrooms, so developing programs to decrease them in early school years is imperative to prepare them for their likely future around typically developing peers.

The benefits of this study also extended to the typically developing peers, whose involvement in programs such as these is perhaps the most important part of students with autism learning valuable social skills. By training peers to look for and model specific skills use of these skills increased for all students involved. This elucidates the significance of educating all students about how to properly interact with people with disabilities. If school districts spend even a small amount of time explaining disabilities in general then elaborate on this information by teaching specific strategies to interact with special needs students, everyone will benefit and socialization difficulties may decrease. Although it was once assumed that children diagnosed with autism were unable and uninterested in developing social relationships with their typically developing peers, recent research has shown that these individuals are not only capable of socializing, but also appear to enjoy it. “observing peer interactions of typical children provides unique social learning opportunities for children with disabilities”, so the development of programs which facilitate this are imperative (Gonzalez-Lopez & Kamps 1997, 2).

Bauminger, Shulman and Agam (2003) explain, “social interactions among children with autism range from a lack of awareness of others...to abnormalities in peer relations” (489). This lack of awareness oftentimes perpetuates the socialization issue- “lack of social skills prevents children with autism from developing positive peer relationships and from achieving a more successful integration into the community” (Gonzalez-Lopez & Kamps 1997, 2). It is essential

then, to design programs which ensure students with autism have ample opportunities not only to see typical peer interactions but also imitate them and be reinforced for doing so.

Albert Cotugno (2009) developed a multidimensional therapy program which integrated group based therapeutic interventions, social cognitive learning approaches, and taught skills through a stage based cognitive developmental program. All 18 of the participants diagnosed with autism attended group sessions once per week for an entire year which aimed to teach social skills based on specific levels of development in the group. As the goal was reached for each stage, participants progressed to the next level in order to mimic the development of social skills in typically developing students. Cotugno also addressed specific skills related to symptomology of autism such as effective stress and anxiety management during group activities, joint attention, and flexibility in accommodating to change. All of these activities are essential for optimal functioning in a mainstream classroom with typically developing students. Furthermore, although many people with autism prefer strict schedules, it is unrealistic to assume that daily activities remain static, therefore this goal is especially applicable to integration into everyday society. Results were based on teacher and peer preferred social behaviors as well as appropriate school adjustment as defined by objective, standardized measurement instruments. Post intervention measures indicated that teacher ratings of social adjustment for both age groups improved, with more improvement with the younger group. Parent ratings also demonstrated significant improvement in stress and anxiety management, joint attention, and flexibility in transitioning from task to task. Data also showed that the younger group was more likely to have reported stress or anxiety issues and to have spent group time learning to effectively cope with this. An important message to take away from this study is that “children with ASD who have significant social deficits and impairments may be capable of making ongoing cumulative gains

when interventions are extended over longer periods of time and are targeted to areas of need” (2009, 1275). If given the correct tools and ample amount of time to learn, children with autism are indeed capable of developing social skills that are beneficial to their integration into society. In addition to researching by psychologists and other professionals, it is important for the educational community to embrace new information pertaining to treatment of symptoms of autism. A collective effort by these professionals and the general public is essential during this seemingly epidemic outbreak of the disorder.

Project New Friends is a program developed by Dr. Andrea Chait, a Board Certified Behavior Analyst and Director of Pathways Strategic Teaching Center. Although Salve Regina was not directly responsible for the program, we were asked to evaluate typical peer knowledge retention and development of target behaviors outlined previously in Project New Friends materials, as well development of future research endeavors and possible changes in the program.

Methods

Participants

Participants in the study were three students diagnosed with autism who attend a satellite classroom of Pathways Strategic Teaching Center (PSTC) at a public middle school in Jamestown, RI. The students are ages 13-15 and all previously attended PSTC, which is an inclusive school only for children with autism. The nine New Friends (NFs) were typically developing eighth grade students in a public school who volunteered to participate in Project New Friends (PNF).

Design

The first phase of the study (intended to educate typically developing peers) was evaluated using a simple test-retest design. The social skills acquisition phase of the study employed a small-n simple AB design. Baseline (A) lasted two weeks and data were collected in unstructured settings such as the hallway, lunchroom, gymnasium, and library since participants were not yet engaged in structured meetings. Treatment (B) lasted the remainder of the school year (five months) and data were collected during structured PNF activities as well in the unstructured settings previously mentioned.

Procedure

Parents of typically developing eighth grade students were notified of the educational program available to their children and were asked to complete consent forms if their children were to participate. Upon completion of this form, typically developing students were administered a pre-test to determine their knowledge and perception of people diagnosed with (ASD), in addition to completing an inventory of their self esteem and personal image. Upon completion of these tasks, students attended a PowerPoint presentation on autism which discussed the social, cognitive, and emotional limitations of people who are diagnosed. Following the presentation, students completed post-tests to determine any increase in knowledge or perception of ASD. At this time, students were offered the opportunity to participate in PNF twice per week for approximately one hour during their study hall. Consent forms outlining expectations, potential risks, confidentiality, and participation requirements were distributed at this time to be read and signed by parents and guardians.

Following successful completion of consent forms, nine NFs were paired with the PSTC student. NFs interacted with PSTC students in a variety of supervised academic and social activities such as board games, puzzles, and snack making. Typical students were encouraged to

initiate conversations with PSTC students, make consistent eye contact, and reciprocate communication since these social skills were deemed most valuable and related to the study.

Ten months later all typically developing students were retested to determine any change in perception or opinion of interacting with people with disabilities after completing Project New Friends.

Data pertaining to initiation, attention and response behaviors of the PSTC students as well as opportunities versus attempts of initiation by typically developing peers were taken by trained staff in both structured and unstructured settings.

Dependent Variables

Initiation. The PSTC student either verbally or non-verbally (i.e., gestures, waves, smiles, etc.) begins a social interaction with a typically developing student

Attention. The PSTC student non-verbally focuses on the typically developing peer (i.e., makes eye contact, looks at peer, models or imitates what the peer is doing, engages in joint attention, etc.) within the first two minutes of being in the presence of the peer.

Response. The PSTC student verbally replies or reacts to an initiation made by a typically developing peer

Results

Upon completion of the post-tests, it was clear that typically developing students gained and maintained knowledge of autism both immediately after the presentation and ten months later. Scales which measured typically developing students' perceptions and opinions of peers with disabilities did not show any significant increases after the presentation or at the ten month follow up test.

Data indicated that initiation skills by PSTC students were not affected by PNF in structured or unstructured settings. Attention to typically developing peers increased for two of the students, even when their opportunities to attend decreased as time went on. Participant #2 attended 100% after 2/24/09, despite prior inconsistencies in attention and a sharp decrease in opportunities to attend. Participant #1's attention decreased from baseline to treatment, but his attention during baseline was substantially lower than the other two participants, and his opportunities to attend were limited. Response behaviors for all three participants increased from baseline to treatment, then successfully generalized in unstructured settings as well.

Initiation by typically developing peers remained high throughout the structured meetings, but began to decrease steadily outside of the classroom until they ceased to initiate at all.

Discussion

As autism continues to increase in prevalence and mainstreaming becomes more standard, it is imperative that typically developing students gain an understanding of the disorder. The simple thirty minute presentation which the eighth graders watched effectively educated them on the basic limitations and difficulties for children diagnosed with autism, and this knowledge was maintained over ten months. Implementation at other schools and with younger children would likely increase the understanding and respect for those affected by the disorder. Furthermore, the opportunity for typically developing students to interact with students with autism in structured, supervised settings decreases some of the stresses involved in developing relationships with them. With a greater understanding of the disorder and a more realistic set of expectations for their friendship, typically developing students would be more

likely to persist in their interactions long enough for the students with autism to develop important social skills of their own.

One focus of the study was the generalization of skills learned during structured PNF activities to unstructured activities in the hallways, gymnasium, lunchroom, and library. While there is research pertaining to structured interaction, it is evident that more research is needed in to determine the feasibility of students generalizing social skills outside these structured meetings. It is also important to focus on mixed interactions between typically developing students and students diagnosed with autism since “having a typical peer as a friend [is] related to having a more complex and responsive interaction within friendship” (Bauminger, Solomon, & Aviezer 2007). In future research, it would be interesting for parents to note any changes in behavior outside of school as well.

Although it was found that there was no increase in PSTC student initiation from baseline to acquisition phase, this data elucidates the fact that initiation is a central social difficulty for students diagnosed with autism. Further research more specifically related to this skill would be beneficial. Teaching typical peers ways to initiate interaction in order to appropriately model for students with autism would promote attainment of this skill, and more extensive focus on one particular skill would likely help also.

Data showed that response behavior from all three PSTC students increased from baseline to acquisition phase, illustrating an advantage of typical peer interaction. Concordantly, there was a decrease in typical peer initiation over the course of the study, and particularly into the last month. What this suggests is that despite a general decrease in peer initiation, PSTC students still gained valuable social skills and were able to apply these social skills even in inconsistent situations.

Interestingly, the only day participant #1 attended 100% was the single time his Jamestown Peer (JP) acknowledged him outside of the structured classroom setting. While this could be a novelty effect, it also compels us to question the effect on the student. Had the JP not extinguished attention opportunities so early in the study, the PSTC student may have attended more consistently throughout.

Although overall PSTC students responded positively to PNF, the results would have been more consistent if the JP attended more and initiated interaction more with PSTC students. However, it is “difficult for typical children to maintain interaction with children with autism” because they tend to “avoid social contact by leaving the situation, or exhibit negative responses in the form of disruptive behavior” (Gonzalez-Lopez, & Kamps 1997). Perhaps in the future, it would be beneficial to address this difficulty with the typically developing students so that the relationship is more reciprocal outside of structured settings. While the typical students involved were educated on autism, it would be especially advantageous for them to be trained more specifically on interactions with students diagnosed with autism.

Pell Honors Program Connections

As a Pell Scholar, I have been afforded the opportunity to engage intellectually in a wide breadth of classes which aim to develop independent thinking and an understanding of our duties as humans to serve the community. When I began Project New Friends as a sophomore, I could not conceptualize the extent to which I would become involved and invested in working with it. Although the initial program was already developed when we began, I became skilled in data acquisition procedures as well as data input and analysis. The interactions with professionals in my field were beneficial to my education as well as my future plans to work with people with disabilities. It was through this program that I developed a passion for autism and a genuine interest in researching appropriate ways to socialize these students.

An additional Pell theme which was of importance was the discussion of ethics. With an increased rate of diagnosis, it is imperative for many of these students to be integrated into general education classes in order to alleviate pressure on inclusive special education classrooms. Although the benefits to students with autism have been discussed in depth, it is ethically important to also note the effect on typically developing students classroom learning. With the probability of interruptions increased in integrated classrooms, teachers have less time to cover material which is necessary for other students to do well on their regional testing. What must be considered here then is if the benefits of mainstreaming are solely to the students with the disabilities, while the general education students suffer.

The honors program also educates students to be able to coherently defend and support their opinions to people who may have conflicting ideas. Although the reactions of colleagues at Salve have generally been positive, I have experienced some rejection and misunderstanding at

both regional and national conferences. Previous generations seem to still be under the impression that this particular population should simply be institutionalized and stop affecting families and other students. While it was common practice for intellectually disabled individuals to be sent to group homes or institutions previously, there have been great advancements in research which prove the benefits of fostering relationships with typically developing students, and sharing this information with others is essential to educating the general public about this pervasive disorder.

Pell also supports the University Mission to work for a world that is harmonious, just and merciful by providing for the community and becoming responsible citizens of the world. Because of the increased prevalence rates, it is imperative to gain an understanding of autism and related disorders in order to maintain status as a responsible citizen of the world. With alarming rates of 1 in every 110 births being diagnosed, people with autism are a significant portion of our population and therefore most people are likely to have some interaction with someone affected by the disorder. Further research of autism is necessary and in my opinion reflects the University Mission as well as the Pell Honors Program intentions.

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