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The Impact of One-to-One Paraprofessional Aides on
Social Skills Outcomes in Students with Autism

A thesis submitted in partial satisfaction
of the requirements for the degree of Master of Arts
in Education

by

Christopher Robert Osborn

2014

ABSTRACT OF THE THESIS

The Impact of One-to-One Paraprofessional Aides on Social Skills Outcomes in Students with Autism

by

Christopher Robert Osborn

Master of Arts in Education

University of California, Los Angeles, 2014

Professor Connie L. Kasari, Chair

The social impact of being assigned a one-to-one paraprofessional aide for a child with high-functioning autism (HFA) in a school based setting was assessed. Aides are designated to assist children in academics, behavior management, and socialization. However, previous research indicates children with aides are less socially engaged on school playgrounds than children with HFA that do not have an aide (Kasari et al., 2012). These findings are examined further by investigating the effectiveness of social skills treatments in relation to a child having an aide. Results indicate children with an aide benefited most from an intervention with a peer-mediated component. Because aides were not directly involved in the intervention, these findings indicate aides potentially learned how to increase child engagement through observation. Future intervention studies should target integrating aides into social skills

interventions as they can be a valuable tool for maintaining social engagement throughout the school year.

The thesis of Christopher Robert Osborn is approved.

Alison Bailey

Jeffrey J. Wood

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2014

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The Impact of One-to-One Paraprofessional Aides on Social Skills Outcomes in Students with Autism

Children with High-Functioning Autism (HFA) often have typical language and an average IQ, however still have significant deficits in the realm of socialization. Among these deficits are a lack of orientation towards people, poor use of eye contact, trouble interpreting both verbal and nonverbal social cues, inappropriate emotional response, and a lack of empathy towards others (Weiss & Harris, 2011). Additionally, children with HFA experience difficulties in sharing affective experiences and understanding the perspective of others, both of which are critical for social reciprocity and the development of peer relationships (Gutstein & Whitney, 2002).

These deficits result in both short and long term negative consequences (Elliot & Gresham, 1987). Children with HFA display social skills deficits as early as preschool, a trend that continues on into elementary school where the majority of this population experience great difficulty starting and maintaining friendships with their peer group. By middle and high school, this failure to create or maintain friendships persists, as a lack of social understanding can lead to ridicule and rejection by peers (Orsmond, Krauss, & Seltzer, 2004; Church, Alisanki, & Amanullah, 2000). Additionally, because children with HFA have relatively high levels of intelligence, they are often aware of their own social skills deficits. Knott, Dunlop, and Mackay (2006), found children with ASD reported troubles with social engagement, temper management, and social competence that affected both their friendships and peer relationships. Furthermore, once individuals with ASD have left school, their social skills deficits continue to hamper their quality of life, as adults with HFA are much more likely than the typically developing population to be unemployed or underemployed, as well as continue to have less satisfying social

relationships (Szatmari, et al. 1989). Finally, recent research has shown a link between the quantity and quality of an individual's social relationships toward potential health risks, with one study showing that loneliness can actually be worse for one's health than obesity and equivalent to heavy smoking (Holt-Lunstad et al. 2010).

Although children with HFA make fewer social initiations than both neurotypical children and children with other disabilities, the absence of social overtures does not necessarily indicate a lack in desire for peer relationships (Attwood, 1998). Bauminger and Kasari (2003), found children with HFA exhibited higher levels of loneliness, implying a desire for social relationships. While they understood their loneliness less than typically developing children and despite reports of having at least one friend, their friendship quality was poorer in regards to security, help, and companionship.

The pervasiveness of their social skills deficits have led to many interventions to combat these social issues. These treatments attempt to improve social skills deficits in children with ASD with the goal of improving social relationships in real world environments such as school (Kasari & Smith, 2013; Lord, 1990; Williams, 1989).

Placement in General Education Settings

In addition to social skills treatments, children with HFA are being placed in general education settings as one approach to intervention. While there is some debate about inclusion as an intervention, the general belief is that children with ASD can benefit from immersion in environments with typically developing children, in part to model appropriate social behaviors, and to encourage the development of friendships (Mesibov and Shea, 1996). Studies examining the effects of inclusion on children's social relationships have been mixed.

Bauminger et al. found that children with HFA who have friendships with typically developing children (identified as mixed dyads) experience more durable and stable relationships than dyads between a child with HFA and a child with a disability (non-mixed). Additionally, children in mixed dyads were more responsive to one another, showed higher levels of positive social orientation and cohesion, and had more fun together (Bauminger et al., 2008). This evidence indicates an educational placement involving typically developing children would be ideal for children with HFA.

However, other studies contradict this notion and argue that education for a child with HFA in an inclusive setting is unrelated to having peer relations (Orsmond, 2004). Furthermore, when integrated with typically developing peers in mainstream classrooms, children with ASD may be at increased risk for peer rejection and social isolation (Chamberlain, 2001). While the evidence is inconclusive, the placement of children with HFA in general education settings is an ever-increasing trend (U.S. Department of Education, 2000).

Implementation of a One-to-One Paraprofessional Aide

Among the problems associated with inclusion are issues with adapting curriculum, potential behavioral and attentional problems of the child, and helping the child navigate through the school independently. Thus, children with ASD who are included in general education classrooms often need assistance in ways that their neurotypical peers do not. One way in which these difficulties are addressed is through the use of a one-to-one aide or paraprofessional. One-to-one paraprofessionals assist children with disabilities in the areas of behavior management, academics, and socialization, and are currently the fastest growing personnel in special education (Blalock, 1991).

One-to-one paraprofessionals are also used in general education settings, often when a child with a disability (including HFA) is placed in a regular classroom setting. In general education settings, paraprofessionals are perceived to be an efficient, effective, and economical resource (Myles & Simpson, 1989). Their job duties in this setting include: carrying out teacher planned instruction, implementing positive behavior support plans, assisting students with personal care needs, and helping facilitate social relationships.

However, there has been little research relating student achievement and social outcomes to the use of paraprofessionals. Some research has exhibited a number of drawbacks towards assigning a one-to-one paraprofessional to children with ASD. Often this includes a disconnection from peers in class, as the student and paraprofessional are often seated in the back or side of the room, physically separated from the class. Additionally, the students are often hesitant to participate in an activity without paraprofessional direction, prompting, or help (Giangreco, 2010). In terms of socialization, it's been reported that aides rarely attempt to involve their children with autism in social play. Instead, children with autism interact more with adults (instead of other peers) than do typically developing children (Anderson et al., 2004; Odom et al. 2001). Finally, feelings of stigmatization and bullying occur to a higher degree for children with one-to-one aides. For example, teenagers with HFA have reported that they often feel "marked" socially by their peers in the presence of their one-to-one aides (Humphrey & Lewis, 2009). Additional research is needed in this area, particularly in the realm of the aide's influence on social experiences in unstructured environments and how this may fluctuate when intervention is presented.

The Importance of Playground Engagement

Research has shown that elementary school aged children with ASD are often unengaged with peers on the playground, and fail to initiate and respond to bids for social interaction. They are also often found on the periphery of the playground, completely isolated from other children (Sigman & Ruskin, 1999). A useful and effective method for increasing peer relationships and friendships is to increase engagement on the playground. These experiences over the span of a 180-day school year provide thousands of opportunities for unstructured socialization and play during recess and lunch. For HFA students assigned a one-to-one aide, a job duty of the aide is to help facilitate these interactions and have the child they work with engaged. However, previous research suggests that paraprofessional aides are not assisting with social interaction and peer engagement, and may even be impeding in this crucial area (Giangreco, 2010).

For the current study, Playground observations collected weekly over the course of a 6-week intervention yielded information about children's engagement with their peers. The primary goal of the original study was to assess different kinds of social skills interventions. Results of the study indicated that children with HFA in a peer mediated intervention were *more engaged* as a result of intervention. What is unknown and relevant is how adults may have factored into these observations as sixty percent of the children had a one-to-one aide. Findings indicate that, prior to treatment, children with an aide were significantly less engaged on the playground than children without an aide (Kasari et al, 2011). The focus of the present study is to determine how children with aides may have been impacted by the different types of interventions, as well as how results may differ between children with and without aides.

Methods

Sampling, Participants, and Study Procedures

Between August 2003 and September 2007, 83 families were recruited and consented for a research study that provided social skills treatments to children with ASD. Children with a clinical diagnosis of autism were administered the Autism Diagnostic Interview-Revised and Autism Diagnostic Observation Schedule by blind, independent psychologists to obtain a research diagnosis of ASD. Other inclusionary criteria required the child to be fully included in a regular elementary education classroom for at least 80% of the school day, and to have an IQ of 65 or higher (measured through the WISC-IV). Of the 83 consented, 23 were not randomized because they did not meet inclusionary criteria (most often not meeting IQ or ASD designations) or due to school personnel refusing participation.

Participants were recruited from 56 classrooms in 30 different schools in the greater Los Angeles area. The grade breakdown of the 60 participants is as follows: 15 first graders, 18 second graders, 8 third graders, 11 fourth graders, and 8 fifth graders. Ethnic backgrounds were diverse with 46.6% of participants Caucasian, 5% African American, 21.7% Latino, 16.7% Asian, and 10% other. Finally, the average age of participants was 8.14 years old ($SD = 1.56$), with an average IQ of 90.97 ($SD=16.33$). 60% of the participants had one-to-one paraprofessional aides.

Children enrolled in the study were randomized to one of four treatment conditions: child-assisted intervention, peer-mediated intervention, both interventions or no intervention (control). All participants were randomized according to the order that they were found eligible for the study (i.e. randomized in the order the research team received consents). Each treatment consisted of twelve sessions over six weeks, and in no way were aides involved directly in the intervention. Consistent with Kasari et al., 2012, children in peer mediated interventions were compared with children in adult assisted interventions.

Primary Outcome Measure

Playground Observation of Peer Engagement (POPE): The POPE is a measure that looks at children's interactions and play skills on the playground during recess and lunchtimes (Kasari, Rotheram-Fuller, & Locke, 2005). It examines the amount of time a child is engaging or playing with peers, as well as details regarding the quality of the interaction. The POPE was administered at multiple time points throughout the study including pre-intervention (2x), each week through intervention (1x), post-intervention (2x), and follow-up (2x) study time points. Observations of playground peer interactions were collected during 15 minute recess periods using a timed interval system. For each minute, a trained, blind to treatment assignment coder assessed whether the child was engaged with another child or many children, playing a game with peers, observing a game or form of engagement, playing parallel to peers, or solitary. Additionally, for each interval, the number of verbal initiations, responses, and conversations will be recorded. Conversations are coded as four total initiations and responses consecutively.

Results

Preliminary results

As reported previously, pre-intervention engagement scores on the playground for children with one-to-one aides and children without one-to-one aides have been compared. Utilizing a Wilcoxon-Mann Whitney test, evidence indicates children without a one-to-one aide are significantly more engaged ($p = 0.027$) than children with one-to-one aides, as the children without aides are engaged 49% of the time and the children with aides are only engaged 38% of the time. Additionally, the children with aides were significantly more solitary ($p = 0.036$) than the children without aides, as the children with aides were solitary 40% of the time and the

children without aides solitary only 23% of the time. Moderate power was detected for both engagement ($d = 0.585$) and solitary ($d = 0.610$) measurements utilizing Cohen's D .

Growth Through Intervention

Joint engagement with peers was analyzed by aide group (with and without an aide) using Hierarchical Linear Modeling (HLM). When examined across twelve time points before, during, and after intervention, results indicate that children with aides significantly increase in their engagement ($p = 0.025$) while children without aides did not show significant increases in engagement ($p = 0.366$). Additionally, children with aides exhibited significant decreases in time spent solitary ($p = 0.008$) while children without aides did not show significant changes ($p = 0.162$). Furthermore, at the conclusion of intervention, there were no longer significant differences in engagement between children with and without aides ($p = 0.531$). Graphs in Appendix I and II.

Lastly, because significant increases in engagement were seen in children with aides, differences in engagement changes were examined further based on if the intervention they received was peer-mediated or not. Children who received the peer-mediated intervention exhibited significant increases in engagement throughout and after treatment ($p = .009$). However, children that did not receive a peer-mediated intervention (whether they had an aide or not) did not predict higher levels of engagement ($p = 0.478$). Graph in Appendix III.

Discussion

While results from the present study are not completely in line with the original hypotheses of the proposal, the findings are still noteworthy. Pre-treatment scores indicate that children with one-to-one aides are less engaged and more solitary on the playground than children without aides. However, while children with aides exhibited low levels of peer

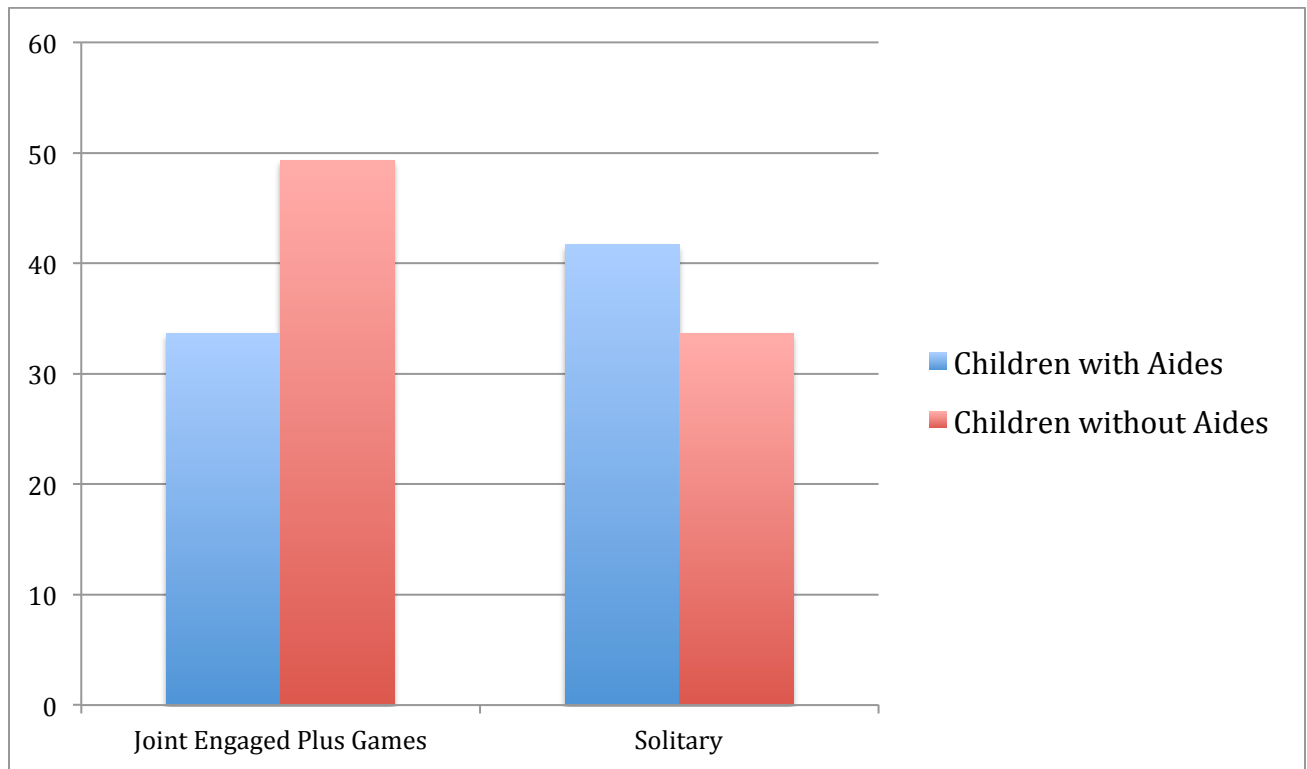
engagement before treatment, they experienced greater growth versus the children without aides. At the outset, this cannot fully be explained, but there are three potential reasons this may be the case. Firstly, as noted in the results, the children with aides were engaged 11% percent of the time less than children without aides before intervention commenced, indicating the children with aides had more room for growth. Secondly, while aides were not included in the intervention in any way, they were aware the intervention was being implemented and perhaps went to greater lengths on the playground to ensure the child was engaged. Thirdly, considering the peer-mediated intervention sought to teach typical peers “how to be a good friend” and to seek out social experiences with children alone on the playground, a child with an adult shadowing them may act as a large marker for the typical peers trying to help. Finally, many aides perhaps learned via observation while the intervention was ongoing as aides tended to be present during the unstructured times the intervention was being implemented. If this is the case, a future intervention involving both peer mediation and aide training could lead to even better outcomes. Limitations of the present study include a relatively small, and mildly uneven sample size, even though moderate power was achieved. Additionally, the IQ of children with an aide was on average 10 points lower than children with an aide, which may explain differences in pre-treatment scores but should not have effected changes throughout and after intervention.

There are several potential implications from the findings of the current study. Firstly, this study further emphasizes the role peers can play in helping a solitary child become involved socially during the school day. Additionally, the results may indicate a gap in current aide training, as school districts and agencies may not be teaching the importance of peer engagement during recess and lunch, let alone how to facilitate meaningful social experiences during these times. Results from the present study indicate aides may have helped create and maintain the

positive results of the social skills intervention even though they were never directly involved in the intervention. Due to this success, directly involving aides in a coaching model may produce even greater results and thus should be the focus of future studies.

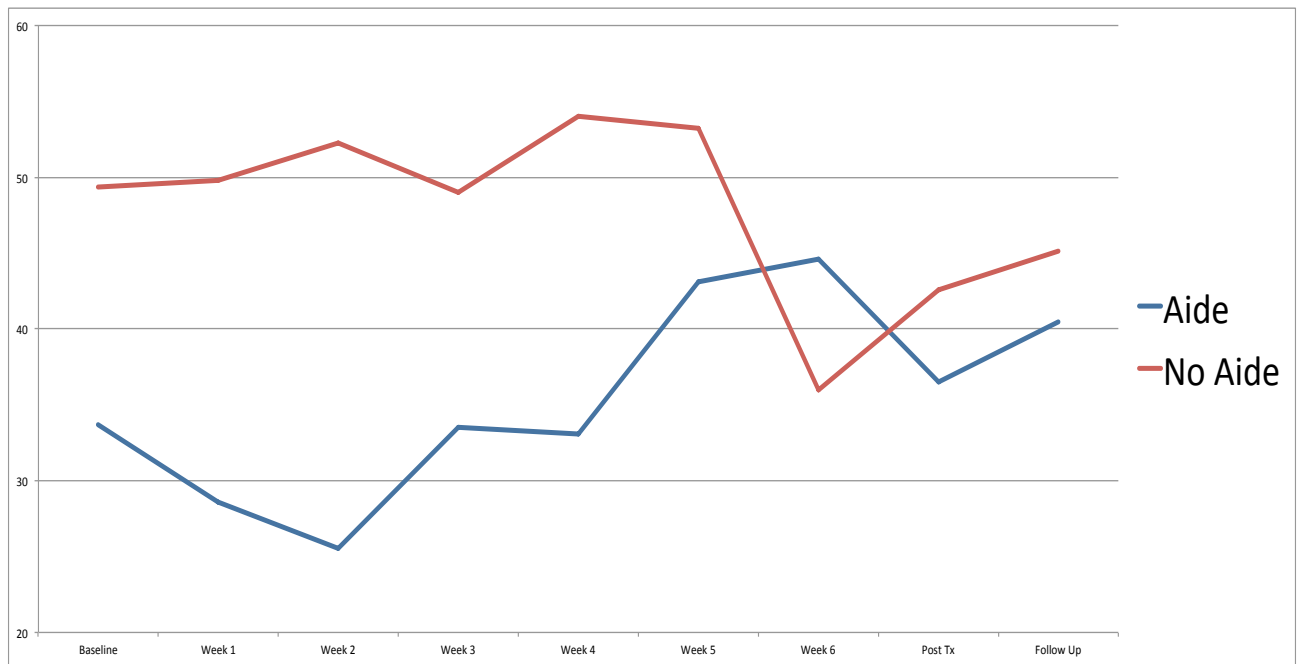
Appendix I.

Baseline Engagement Scores: Children with Aides vs. Children without Aides



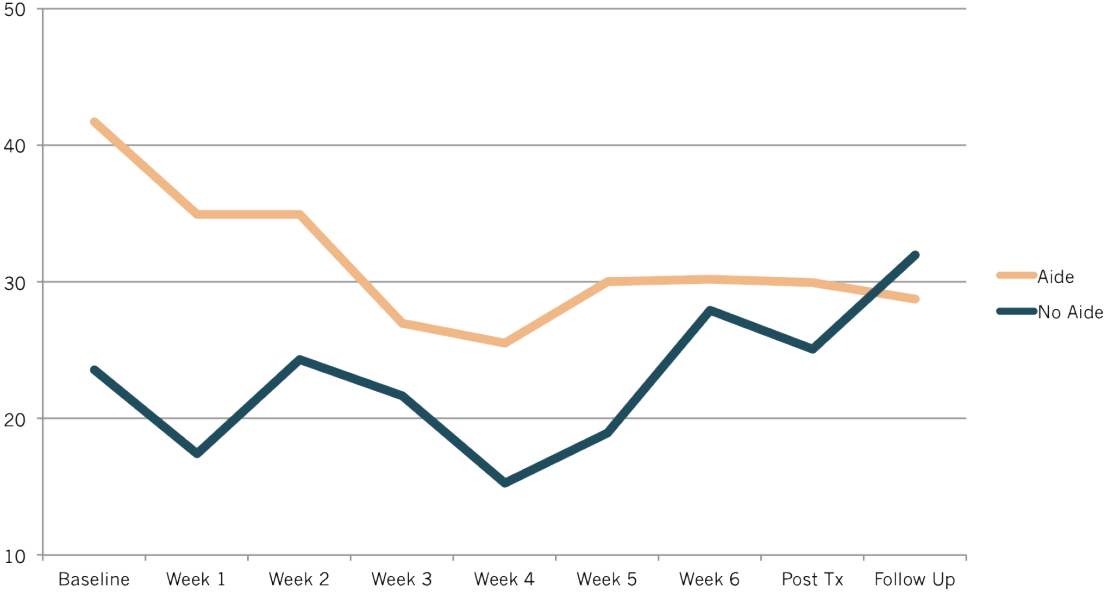
Appendix II.

Engagement Change throughout Intervention: Children with Aide vs. Children without Aide



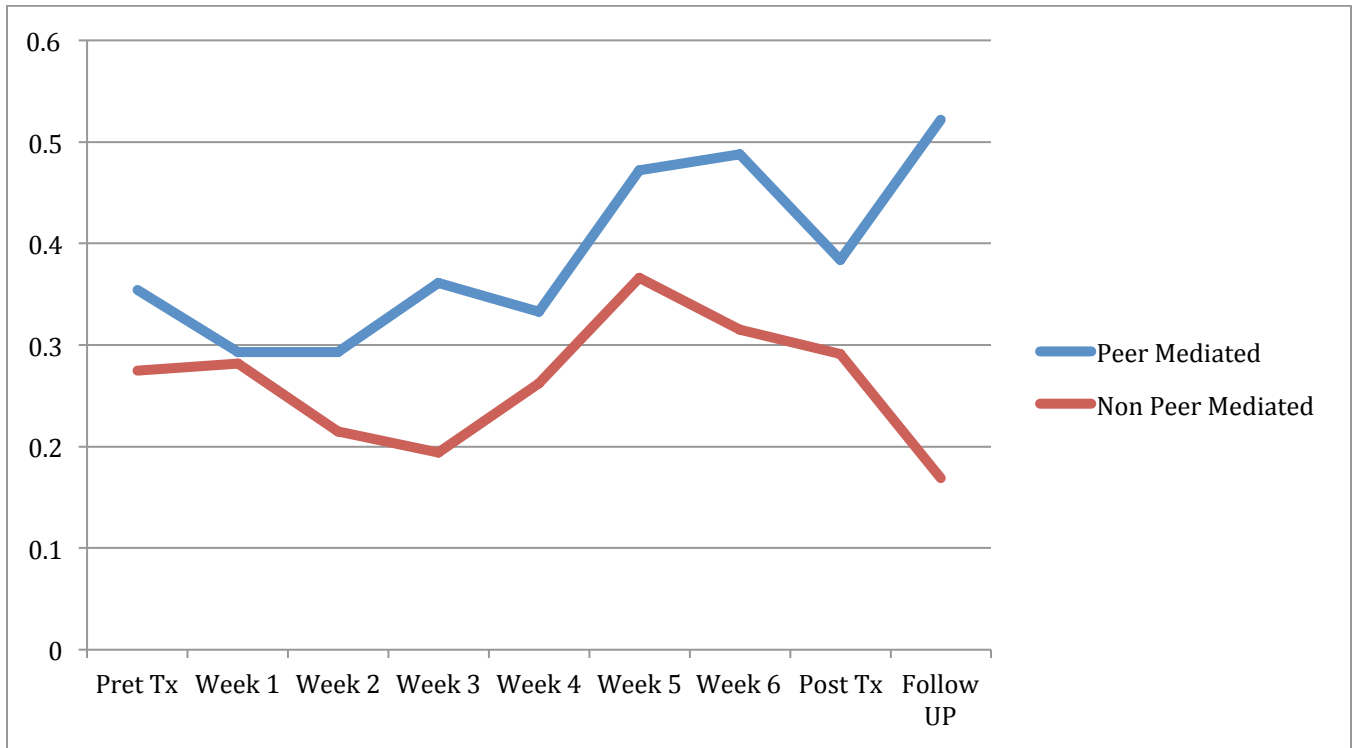
Appendix III.

Solitary Change throughout Intervention: Children with Aide vs. Children without Aide



Appendix IV.

Engagement Change for Children with Aides: Peer Mediated vs. Non Peer Mediated



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