Table 1

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| Citation | Participants | Design | Purpose |
| Rocha, M. L., Schreibman, L., & Stahmer, A. C. (2007). Effectiveness of Training Parents to Teach Joint Attention in Children with Autism. *Journal of Early Intervention. 29:2,* 154-172. | -3 parent-child pairs.  - Included 2 boys and 1 girl (ages 2.2 to 3.6 years). All diagnosed with autism.  -Parents: 2 mothers and 1 father. | Single subject, multiple baseline design across participant pairs. | -Can parents be taught to implement a joint attention intervention with young children with autism.  -What effect will the parents use of joint attention intervention have on the child’s joint attention responding and initiating during behavioral assessments.  -Will parents generalize their use of the procedures to interactions with the children at home.  -Will changes in parent and child behavior maintain across time  -How satisfied will the parents be with their participation in the intervention and changes in their joint attention skills. |
| Citation | Participants | Design | Purpose |
| Shertz, H. H. & Odom, S. L. (2007). Promoting Joint Attention in Toddlers with Autism: A Parent-Mediated Developmental Model. *Journal of Autism Development Disorders. 37,* 1562-1575. | -3 parents of toddlers with autism (strong markers of).  -Child age less than 36 months.  Child A:  -24 months old boy  -only child  -Mother 27 years of age, high school graduate, self-report of dyslexia and depression.  Child B:  -33 months boy  -Epilepsy  -two siblings  -All child received Part C services.  -Mother 32 years of age, college graduate with experience in special education.  Child C:  -22 months old boy  -two siblings  -All children received Part C services.  -Mother 23years of age, high school graduate, self-reported dyslexia, ADHD, bipolar disorder and previous narcotics addiction. | Combination single subject multiple baseline design & qualitative research designs (mixed methods research design). | To determine the effectiveness for toddlers with early identified autism of a model that initiated intervention before age three, promoted joint attention by building on it developmental precursors and used the parent-child relationship to mediate child learning. Also to study possible transactional influences among family factors, intervention-related variables and intervention outcomes. |
| Citation | Participants | Design | Purpose |
| Kasari, C., Gulsrud, A. C., Wong, C., Kwon, S., & Locke, J. (2010). Randomized Controlled Caregiver Mediated Joint Engagement Intervention for Toddlers with Autism. *Journal of Autism Development Disorder. 40,* 1045-1056. | -38 caregivers and their toddlers with autism.  -19 caregiver-child dyads in the waitlist control group (WL).  -19 caregiver-child dyads in the immediate treatment group(IT).  -The children ranged in age from 21-36 months. | Randomized wait list control design utilizing random numbers list to assign families to WL or IT | If a joint attention intervention would result in greater joint engagement between caregivers and toddlers with autism. |
| MacDonald, R., Parry-Cruwys, D., Dupere, S., & Ahearn, W. (2014). Assessing Progress and Outcome of Early Intensive Behavioral Intervention for Toddlers with Autism. *Research in Developmental Disabilities. 35, 3632-3644.* | -83 children with autism  - 58 same aged typically developing peers (TDC).  - all aged 1, 2 and 3 years. |  | To examine the utility of a direct observational assessment in measuring change over time for children with autism (CWA) receiving early intensive behavioral intervention (EIBI) treatment. |
| Schertz, H. H., Odom, S. L., Baggett, K. M. & Sideris, J. H. (2012). Effects of Joint Attention Mediated Learning for Toddlers with Autism Spectrum Disorders: An Initial Randomized Controlled Study. *Early Childhood Research Quarterly. 28, 249-258* | 23 parents and their toddlers under 30 months of age  -Autism | Randomized controlled trail design with intervention and control groups. | To determine effects of the Joint Attention Mediated Learning (JAML) intervention on acquisition of joint attention and other early social communication competencies for toddlers with autism spectrum disorders. |
| Citation | Participants | Design | Purpose |
| Ferraioli, S. J. & Harris, S. L. (2011). Teaching Joint Attention to Children with Autism Through a Sibling-Mediated Behavioral Intervention. *Behavior Intervention. 26, 261-281* | -Four sibling dyads.  -One child with ASD and his/her typical sibling.  -Julia (43 months, female, ASD) and brother Todd ( 6 years old,).  -Trevor ( 51 months, male, ASD) and brother Luke (8 years old).  -Brian (41 months, male, ASD) and brother Jack (8 years old).  -Michael (64 months, male, ASD) and brother Alex (6 years old). | Single-subject, multiple probe design across participants. | To systematically replicate an established, adult-mediated intervention with typically developing siblings teachers, and evaluate the program’s efficacy in teaching joint attention skill to children with autism. |

Table 2

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| Citation | IV | DV | Results | Limitations |
| Rocha, M. L., Schreibman, L., & Stahmer, A. C. (2007). Effectiveness of Training Parents to Teach Joint Attention in Children with Autism. *Journal of Early Intervention. 29:2,* 154-172. | *During baseline parents were instructed to play with their children as they would at home.*  *-Joint Attention Parent Training: each parent was taught to use naturalistic behavior analytic techniques to teach the child to respond appropriately to joint attention bids. Discrete Trail Training (DTT) to target joint attention responding.*  *-The parents were taught to provide appropriate instruction, distinguish appropriate from inappropriate responses by child, and providing feedback following the child’s response.*  *-Pivotal Response training components: use of child choice and motivating toys.*  *-Training session on: benefits of parent training, importance of joint attention, social games and importance of creating a better joint attention environment in the home.*  *The use of modeling and coaching was used to teach the techniques to the parents.*  *Parents were asked to implement intervention at home and other places between sessions.*  *Training divided into 5 phases:*    *Phase 1: Response to hand on object. While child was engaged with one toy, parent placed child’s hand on different toy. if the child engaged with the new toy the parent reinforces the child by social praise and allowing child to play with their choice of toy. If child doesn’t respond correctly the parent re-presented toy and the trainer assisted by physically prompting child to engage with the toy for 5 seconds.*    *Phase 2:*  *Response to object tapping. Exactly same as phase 1 except the parent presents a new toy in front of child and taps on it. The child was expected to disengage from the toy they had and engage with the new toy for at least 5 seconds.*    *Phase 3:*  *Response to showing of object. Same as first two phases except the parents showed a toys to child while child were engaged with another activity. The parent then held out a new toy for the child to see. If attention was gained they were required to attend for at least 5 seconds.*    *Phase 4: Following a point. While child was engaged with an object, parent established eye contact using the “look” prompt or by holding a toy close to their face. The parent then turned their head and pointed to another object in the room. The child was required to follow the point and look in the same direction as the parent. If the child did they were allowed to play with the new object or continue to play with the original object. If the child did not follow parent’s point then the parent tried again using physical prompts.*    *Phase 5: Following a gaze. Same as phase 4 except the parent shifted their gaze toward another toy without the pointing.* | Parents will increase their joint attention bids causing their children’s responses to increase. | Parents were able to learn the joint attention interventions and in turn, their children not only responded, but initiated joint attention bids more themselves. | The ability of parents to implement the intervention in the absence of providers. Training was limited to a clinical setting, never trained in natural environment. |
| Citation | IV | DV | Results | Limitations |
| Shertz, H. H. & Odom, S. L. (2007). Promoting Joint Attention in Toddlers with Autism: A Parent-Mediated Developmental Model. *Journal of Autism Development Disorders. 37,* 1562-1575. | -Sessions were conducted in families’ homes. -Played face-to-face games using the children’s own toys.  -Levels of parent initiative and child initiative.  -Interventions introduced in sequence.  -Focusing on faces to increase child’s tolerance for looking at faces. (using interactive face-oriented vocal games with strong rhythms, pairing looks to faces with expressions of affection, making the parent’s face hard to avoid, imitating facial gestures, and mirror play).  -Turn-taking activities to promote reciprocity. Imitation of child-initiated gestures, responding to child actions as if they were intended as interactions, embedding parents’ actions into child’s isolated repetitive play, following child’s lead, pausing for child’s response after parent turn, & playing tease games.  -Responding to joint attention targeted shared attention to objects through supportive parent initiations. Parents were encouraged to introduce a toy after establishing eye contact, hold the toy close to their face when offer to child, and use excitement or suspense to encourage the child to look between toy and parent’ s face.  -Initiating joint attention encouraged the child to engage the parent’s attention in relation to an object by expressing excitement about the child’s play with a toy or introducing “surprise” bags or wrapped packages. | Toddlers will respond to joint attention play with their parents (they will play with the toy their parent is trying to get them to look at). | All 3 toddlers improved performance; focusing on faces, turn-taking, responding to joint attention, and initiating joint attention. | There was a small number of participants and the fact that the intervention was implemented and reported by a single researcher. |
| Citation | IV | DV | Results | Limitations |
| Kasari, C., Gulsrud, A., Wong, C., Kwon, S., & Locke, J. (2010). Randomized Controlled Caregiver Mediated Joint Engagement Intervention for Toddlers with Autism. *Journal of Autism Development Disorder. 40,* 1045-1056. | -Core principals of the intervention were developed into 10 modules.  -Each session included interventionist coaching of caregiver and child engaging in play routines. Modeling, guided practice, and feedback were given in each session.  - Principles applied included following the child’s lead, imitating child actions, talking about what the child was doing, repeating back what the child said, expanding on what the child said, giving corrective feedback, sitting close to the child and making eye-contact, and making environmental adjustments to engage the child.    -Caregivers were presented handouts that summarized the main objectives of each modules. | Intervention that teaches parents to follow their child’s interest can improve their child’s social communication outcomes (children would attempt to get their parent to look at something they are playing with). | -Children engaged significantly less object –focused play, significantly more joint engagement.  -Children showed greater responsiveness to joint attention.  -Greater improvement for families on two of three joint engagement outcomes, one of two joint attention skill outcomes and one of two play quality outcome variables.  -Caregiver-mediated intervention can improve aspects of child engagement, joint attention and play skills in toddlers with autism, | -The treatment study did not coordinate with the child’s services providers and it is not known the differences in the interventions.  -Also a small sample size. |
| Citations | IV | DV | Results | Limitations |
| MacDonald, R., Parry-Cruwys, D., Dupere, S., & Ahearn, W. (2014). Assessing Progress and Outcome of Early Intensive Behavioral Intervention for Toddlers with Autism. *Research in Developmental Disabilities. 35, 3632-3644.* | All children with ASD enrolled in an early intensive behavioral intervention (EIBI).  -Discrete trail and naturalistic teaching (ABA)  -Teaching procedures included systematic prompting and reinforcement.  -Joint attention initiation: children were given the opportunity to initiate joint attention with the experimenter in response to two activation toys and book. The experimenter oriented gaze toward child and maintained a neutral expression  -Responding to joint attention: experimenter pointed to pictures in a book. Second time toys placed on floor near child, toy on shelf near child, picture placed on wall next to child, picture place on wall behind child and item suspended from ceiling about child. The experimenter established eye contact and said “look” and shifted gaze toward one of the objects.  -Social: assessment of eye contact and levels of play. Six trail of responding to name with eye contact were presented. A 5 minute play session pretend play, cause and effect toys, structured play materials. A shelf with additional toys was present next to play area. Experimenter gave cue, “We are all done, you can go play”  Cognitive: motor imitation , answering questions, vocal imitation, and following directions. Children were given 10 response opportunities within each subtest. All subtest questions were standardized across participants. | The effects that an early intensive behavior intervention (EIB) has on cognitive skills, joint attention, play, and stereotypic behavior for young children with autism | -An increase of joint attention, eye contact, imitation and language skill for all children with autism.  -Deceases in stereotypy and in play for most groups. For those who began treatment between 18 and 23 month improved significantly more.  -Largest gains in all areas were made by the youngest participants. | The use of ABA as treatment for a group of such young children. |
| Citation | IV | DV | Results | Limitations |
| Schertz, H. H., Odom, S. L., Baggett, K. M. & Sideris, J. H. (2012). Effects of Joint Attention Mediated Learning for Toddlers with Autism Spectrum Disorders: An Initial Randomized Controlled Study. *Early Childhood Research Quarterly. 28, 249-258* | -First intervention session introduced JAML’s phases and principles, parent and IC roles and basic overview of toddler learning  -In each of at least 15 subsequent home visits, parents reviewed notes from daily logs and interacted with toddlers for 10 minutes  -Targeted outcomes of focusing on faces, turn taking or joint attention and mediated learning principles of focusing, organizing/planning, encouraging, giving meaning and expanding.  -New intervention phase introduced. Verbal review of material followed by a video example of toddler with ASD engaging in targeted phase outcome. If child did not make significant success additional sessions were spent reviewing. | Effects of parent-mediated Joint Attention Mediated Learning for children with autism on joint attention and language development. | Positive effects to promote foundational preverbal social communication. JAML resulted in more frequent attention to parents faces and responses to parents joint attention overtures.  -Significant improvement on separate standardized communication measures even though language outcomes were not directly targeted in intervention. | The trail was a modest size and as a result underpowered, limiting the analysis: IJA generated a modest effect size but did not reach statistical significance, potential mediators and moderators such as parent responsiveness or self-efficacy could not be analyzed and finally although the sample may have been typical of toddlers with ASD parents were primarily Caucasian, two-parent household and most post- secondary education, limiting generalization across dimensions. |
| Citation | IV | DV | Results | Limitations |
| Ferraioli, S. J. & Harris, S. L. (2011). Teaching Joint Attention to Children with Autism Through a Sibling-Mediated Behavioral Intervention. Behavior Intervention. 26, 261-281. | The siblings participated in a brief interactive instruction with the experimenter: including modeling and role plays with experimenter feedback.  Through use of pivotal response training and discrete trail teaching.  Interventions:   1. Response to hand on toy: gaze shift to new toy for at least 5 s, manipulation of toy for at least 5s , initiating gesture to new toy. 2. Response to tap toy: identical to previous. 3. Response to show toy: identical to previous. 4. Eye contact: direct gaze sustained for at least 3s. 5. Follow point: correct response defined by full-head orient in same direction as sibling. 6. Follow gaze: identical to previous. 7. Coordinated gaze shift: gaze shift from toy to sibling for at least 3s. 8. Protodeclarative point: unprompted distal point to an object in room. | A sibling-mediated behavioral intervention on children with autism for teaching joint attention skills. | -All four participants demonstrated improvement on their early social communication scales.  -Differential effects on joint attention were observed across participants.  -Julia exhibited a substantial increase in JA initiations but no change in responding to behavioral request or imitations.  -Trevor increased imitation but he did not demonstrate any change in initiation or responding to behavioral request.  -Mike increased in imitation and behavioral request but no significant changes in initiations.  -Brian demonstrated an increase in behavioral request and responding to JA but no gains observed in initiation JA.  -Only Julia showed gains in initiation. | Failure to control for the increase in direct interactions between siblings. Increased proximity and attention of the sibling teachers without a specific intervention may potentially have led to similar gains in JA. |