

**Critical Review:
How are social interactions impacted by developmental language disorder?**

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This critical review examines the relationship between DLD and social interactions, specifically, how social interactions can be impacted by the presence of a diagnosis of DLD. Previous research shows social interactions can be impaired in persons with DLD and this critical review aims to bring multiple studies together in order to examine how they are impaired, in terms of social factors not social skills. Studies evaluated included one case study and four case control designs. The research indicates that there are a variety of ways that social interactions are impacted by DLD. Specifically, those with DLD are more shy, experience persistent poor quality of friendships, feel less satisfied, participate less and report less reciprocated friendships. SLPs may want to consider including therapy activities to address these deficits.

Introduction

In a world driven by interaction with others, in order to facilitate new and maintain old relationships, language has been found to be an important factor (Andres-Roqueta, Adrian, Clemente & Villanueva, 2016). Specifically, language plays many roles in friendships and other social interactions (Durkin & Conti-Ramsden, 2007). A social interaction involves “any social dialogue that a person has with family, friends, colleagues, acquaintances and others” (The Free Dictionary). Because of the importance of language in interaction, it is possible that children with developmental language disorder (DLD) may be at an increased risk for poor social interactions. DLD is an impairment to one’s expressive language or receptive language in either spoken or written form (ASHA, 2019). Children with DLD have lower language skills than their typically developing (TD) peers and are often referred to a speech-language pathologist (SLP) to address these concerns.

Because of this, their language difficulties may be a barrier and could negatively impact their social interactions. (Durkin & Conti-Ramsden, 2007). In fact, a number of studies have explored this possibly and have established a link between DLD and social interactions. (Andres-Roqueta et al. 2016; Crag, 1993; Mok, Pickles, Durkin & Conti Ramsden, 2014) Because of the difficulties with the language needed to access, participate and leave conversations, these children display poorer social interactions when compared to their TD peers (Brinton, Fujiki, Spencer & Robinson, 1997; Durkin & Conti-Ramsden, 2007; Fujiki, Brinton, & Todd, 1996; Fujiki, Brinton, Hart & Fitzgerald, 1999; Wadman, Durkin & Conti-Ramsden, 2008). It is well established that individuals with DLD have a poorer

quality of social interaction, however, it is necessary to explore this issue in depth to determine the impact.

A social interaction is likely to be multi-factorial and involve a combination of social factors and social skills that work together for a successful interaction. A social factor is defined as “the facts and experiences that influence individuals’ personality, attitudes and lifestyle” (Business Dictionary) while social skills are defined as the “ability to communicate, persuade, and interact with other members of the society, without undue conflict or disharmony” (Business Dictionary). In particular, this review of the literature will aim to explore the contribution of social factors that affect the impairment of social interactions in those with DLD.

Objectives

The objective of this paper is to critically review the literature to examine the ways in which social interactions are affected in those with DLD. Specifically, this paper aims to explicate how social factors, not social skills are impacted by the presence of DLD.

Methods

Search Strategy

An online search through computerized databases including Western Libraries and PubMed was completed to search for articles related to the subject.

The initial search was:

(DLD) or (SLI) and (quality of friendship).

This search yielded a wide range of articles so additional terms were added and reworked a total of twelve times before arriving at the final search terms:

(DLD) OR (SLI) AND (quality of friendships) OR (social well-being) OR (social function) OR (peer

relations) OR (social skills) OR (friendship) NOT (autism).

This criterion revealed the desired articles of interest.

Selection Criteria

Eight articles that studied if and how DLD affects social interactions were selected. Of these articles, those relevant to the influence on social interactions were chosen and a hand search of the reference sections was completed. Five articles were found to address the manner in which DLD impacts social interactions, pertaining to social factors, not social skills.

Data Collection

This literature search found five relevant articles addressing the manner in which DLD affects social interactions. Four articles employed a case-control design while one used a case study method.

Results

Case Study Design:

A case study design approach allows examination of a specific situation in real-life context and is done in small groups. This type of study poses limitations due to the small sample size and the difficulty to generalize it to a larger sample. They are important for understanding how, what and why questions (Crowe, Cresswell, Roberston, Huby, Avery & Sheikh, 2011). Because of this, a case study can provide mild-moderate evidence when answering a research question.

Fujiki et al. (1999) reported case studies examining peer acceptance in eight children with DLD. Participants were recruited through school board SLPs based on well-specified inclusion criteria using gold standard tests. Outcome measures included peer ratings of the children and naming of best friends using both published questionnaires and ratings developed for the study. Measures were administered by the same examiner, although training and familiarity with the study was not reported. Results were reported descriptively for each participant.

Results concluded that three children were less accepted by their peers while no reciprocal friendships were found in five of the children. Interestingly, one of the participants was above the mean for friendships with both same sex and different sex participants and was listed as the best friend of six peers.

Strengths of this study include good inclusion data, and procedure description. There are limitations to the use of case study design given the small sample size and the lack of a control group with which to compare findings.

Overall, this study provides somewhat suggestive evidence that the presence of a diagnosis of DLD may result in reduced acceptance by peers and having fewer reciprocated relationships. This could impair social interactions by limiting the contacts individuals with DLD have with others.

Case-Control study:

A case-control study is warranted in research on DLD in order to compare those who have it with those who do not, and it allows examination of factors that may be influenced by the presence of DLD. It can be difficult to have appropriate control-groups and these studies usually rely only on self-reporting (Himmelfarb Health Sciences Library). For this reason, a case control study can provide moderately-strong evidence to support a research question. Although not the strongest of study designs, it is appropriate in this population as participants cannot be randomized due to the nature of the disorder.

Wadman et al. (2008) performed a case-control study comparing 54 adolescences with DLD and 54 without DLD in terms of their global self-esteem, sociability and shyness, where only the latter is relevant. Participants were recruited from a previous longitudinal study (The Manchester Language Study) using well-defined inclusion guidelines with gold standard tests. All adolescents completed questionnaires of self-esteem, shyness and sociability on three separate gold standard scales. These were administered by a team of researchers including the first author. While procedure was outlined, the research team's familiarity and training were not. Cronbach's alpha for internal consistency was reported for each test and noted to be good.

Results were presented descriptively. Shyness scores were higher in those with DLD than their TD peers. Further mediation analysis revealed that shyness, not core language ability, was predicative of self-esteem. However, core language ability was a significant predictor of shyness.

Strengths of this study include good inclusion data, measure description, report of internal consistency and statistical analysis. Weaknesses include the reliability of adolescences to rate themselves, not testing for ADHD and the lack of a full description of the procedure.

All in all, this article provides highly suggestive evidence that a person's core language ability can affect one's level of shyness, demonstrated through the high shyness scores reported in the DLD group. This in turn affects their social interactions by inhibiting their ability to effectively participate.

Britton et al. (1997) used a case control study to compare participation in conversation of six children with DLD against six chronological age matched peers (CA) and six language age similar peers (LS). Well-defined inclusion and exclusion criteria were included, and gold standard measures were used. Participants were placed in groups of three with one of DLD, CA and LS and outcome measures included when they tried to access the conversation, how they tried to access, how they continued to participate in the interaction and how the other children responded to them. Data collection was done through videotaping and subsequent transcriptions of interactions. All procedures were well explained, and reliability was reported to be strong.

Results were appropriately analysed for each of the areas of interactions stated above. Those with DLD displayed more difficulty joining a pre-existing interaction and if they did join the conversation, they didn't participate nearly as much as the CA and LS children did in the interaction.

Strengths of study include strong descriptions of the procedures, reliability checking processes, and statistical analysis. The coherence of the study was weak, and data could have been laid out in a more reader-friendly manner for ease of understanding.

This study provides highly suggestive evidence that children with DLD participate less and have trouble accessing interactions. This may impact their social interactions as it appears they can't enter and participate in a conversation as easily as their peers.

Fujiki et al. (1996) conducted a case control study in order to compare the quality and quantity of social skills in 19 children with DLD to 19 of their TD peers. Participants were recruited through referrals from the school based SLPs with well-defined inclusion data. Social skills were measured with two gold standard measures examining self-perception of feelings of loneliness and a teacher rating behavioural scale. Another measure was designed to estimate the number of peer contacts children had. One administrator was well-trained prior to interviewing.

Results were reported descriptively under the categories; general estimate of social skill level, number of peer contacts and estimate of satisfaction with social relationships. Children with a DLD were found to have fewer peer interactions and reported that they were less satisfied with their peer relationships.

Strengths of this study include strong inclusion data, well-trained administer and well-defined measures.

Limitations include the reliability of teacher's reporting and a poorly designed measure for peer contact.

Overall, this study provides highly suggestive evidence that children with DLD have fewer social interactions and are less satisfied with these interactions.

Durkin and Conti Ramsden (2007) reported a case control study to compare friendship quality in 120 adolescents with DLD with 118 of their TD peers to examine how friendship quality is predicted by differences in social behaviour and language ability, where only the latter will be discussed. Adolescents with DLD were recruited from a previous longitudinal study, the Conti-Ramsden Manchester Language study, through well-defined inclusion criteria. Census data was used find TD matches with similarities in age, distributions of parental income and maternal education. Gold standard measures were used for the outcomes to gather information on participants' behaviour, emotions and relationships as well as detailed parent and adolescent interviews that indirectly examined the quality of social interactions. Interviews were conducted by a trained researcher, although details on the number, training, familiarity and reliability were not reported. Significant Cronbach's alphas were presented for questionnaires. Interviews were found to be correlated between the students and their parents.

Results were presented for all measures descriptively, with TD performing significantly better than DLD on all measures. Further analysis showed that language ability, specifically receptive language, is predictive of quality of friendship in adolescence. Longitudinal data indicated that poor friendship quality continued throughout the 9-year span.

Strengths of this study include the availability of longitudinal data, analysis of other influential variables, and representation of all economic brackets. Weaknesses can be found in the vague description of the procedure, lack of information on procedure reliability and inclusion of children who are no longer considered DLD.

This article provides highly suggestive evidence that poor language skills is predictive of poor quality of friendships that persists into the teen years. Because of this persistent poor quality of friendships, social interactions may hinder the development of social skills.

Discussion

This critical review aimed to build on previous research which noted differences in social interactions of those with DLD. In particular, this review aimed to look at

how social factors were impaired in those with DLD. Overall, the five studies reviewed each examined different ways that social factors are impacted during social interactions. Because social interactions are a multifactorial occurrence and success cannot be attributed to one factor alone, it makes sense that there are different ways that these impairments can manifest themselves.

All but one study employed a case control study design. This was deemed an appropriate design for this particular population due to the nature of DLD and the specific questions posed by researchers (Britton et al. 1997; Durkin & Conti Ramsden 2007; Fujiki et al. 1996 & Wadman et al. 2008). Because these articles compared those with and without DLD, the studies could not be randomized so this design was deemed strong. A weaker design was used by Fujiki et al. (1999) who employed a case study design and looked only at those with DLD, without a comparison group. That being said, all the evidence presented by the five articles was deemed positive and important for understanding how social interactions are impacted.

Each article reviewed had different objectives, resulting in five different outcomes. Fujiki et al. (1999) found that children with DLD were less accepted by their friends and that their relationships were less reciprocated. With that, Fujiki et al. (1996) determined that those with DLD are less satisfied with their relationships with others when compared to their TD peers. Higher levels of shyness were identified in those with lower language scores (Wadman et al., 2008). Britton et al. (1997) established that those with DLD have increased trouble accessing and participating in ongoing interactions. Finally, Durkin and Conti Ramsden (2007) used longitudinal data to determine that poor quality of interactions persisted into adolescent years.

Five different outcomes, but all very relevant in attempting to understand exactly how social interactions, specifically social factors, are impacted by DLD. Access to social interaction may be impaired due to increased shyness, difficulty participating in interactions as well as decreased ability to access on going conversations (Brinton et al., 1997, Wadman, et al., 2008). When thinking of the social interaction itself, those with DLD are shown to have less reciprocated friendships and to be less accepted by their peers, thus further diminishing their ability to have meaningful social interactions (Fujiki et al. 1996; Fujiki et al., 1999). Furthermore, these difficulties are demonstrated to persist throughout adolescence. (Durkin & Conti Ramsden, 2007). Although there are similarities in each

of the five articles, these are still very different ways that interactions can be impaired.

Future studies should continue to build on this work by looking at how multiple social factors can be present in the same participant. It is important to understand how many of these different factors may present themselves in one person. In addition, qualitative research through interviews and questionnaires would provide valuable information from the perspective of the client with DLD as to how they feel and what they experience in their social interactions. By examining the impairments reported in the qualitative research, it could help to highlight factors that should be targeted by quantitative research. With that, research should also look at appropriate ways to lessen these effects and work towards helping those with DLD build stronger social interactions.

Clinical Implications

This review of the literature continues to support research that social interactions will be negatively impacted by the presence of DLD, and SLPs should keep this at the forefront as they plan therapy. Functional treatment approaches focused on the development of social skills are necessary components of therapy plans. In particular, using peer models may be an effective way and this approach is standard in other domains of speech therapy for children. Robertson and Weismer (1997) established that a TD peer model in play interactions helped to increase play-scripts in children with DLD. The model that was provided by the peer helped to increase the skills in the DLD child. Because of these results, and with some trial and error, group therapy sessions may be a way to use peer models to address some of these areas of impairments.

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