Comparing acceptance and rejection in the classroom interaction of students who stutter and their peers: A social network analysis

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A B S T R A C T

Purpose: Recent work has reported adverse effects of students' stuttering on their social and emotional functioning at school. Yet, few studies have provided an in-depth examination of classroom interaction of students who stutter (SWS). The current study uses a network perspective to compare acceptance and rejection in the classroom interaction between SWS and their peers in secondary education.

Methods: The sample comprised 22 SWS and 403 non-stuttering peers (22 classes) of secondary education in Flanders (Belgium). Students' nominations regarding three acceptance and three rejection criteria were combined. Social network analysis offered procedures that considered direct and indirect interaction between all classmates.

Results: We found few significant differences: SWS and their peers were distributed similarly across positive and negative status groups. Both considered and were considered by, on average, six or seven classmates as 'a friend', who they liked and could count on, and nominated or were nominated by one or two classmates as 'no friend', somebody who they disliked and could not count on. On average, SWS and their classmates also did not differ in terms of structural position in the class group (degree, closeness and betweenness), reciprocated rejection, and clique size. However, SWS do tend to be slightly more stringent or more careful in nominating peers, which led to fewer reciprocated friendships.

Conclusion: Our results suggest that SWS are quite accepted by peers in secondary education in Flanders. Such positive peer interaction can create a supportive and encouraging climate for SWS to deal with specific challenges.

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1. Introduction

In the present study the classroom interaction of students who stutter (SWS) is explored. At school there is constant interaction among students; friendships are formed, leading to social acceptance or rejection. Due to the fundamental need to connect with others, students continuously seek the support, liking and acceptance from those they value (Smith, Mackie,

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& Claypool, 2014). The advantages of close peer relationships are well studied. Not only do they positively affect academic performance, they also help to develop social skills and competencies, help coping with life challenges and reduce stress and anxiety (Hoferichter, Raufelder, & Eid, 2015; Rubin, Bukowski, & Laursen, 2009; Slot & Van Aken, 2016; Steinberg & Morris, 2001). Undoubtedly, social interaction and close relationships have important implications for both physical and mental health (Bacete, Perrin, Schneider, & Blanchard, 2014; Rubin et al., 2009).

However, what if someone's social interaction is unrewarding due to stuttering? Different studies have reported the adverse effects of stuttering on social and emotional functioning at school. The majority of participants in a study of Beilby, Byrnes, Meagher, and Yaruss (2013) described their school-aged years as the most difficult period of their lives. Stuttering is perceived as an obstacle in participating in the full range of social activities available. For example, it could lead to choosing school activities that do not involve talking, and feeling ashamed when introducing oneself (Crichton-Smith, 2002; Hayhow, Cray & Enderby, 2002; Klompas & Ross, 2004). Furthermore, negative social experiences could result in self-doubts about the ability to be a competent communicator and, consequently, in lower self-esteem (Pearson, Child, DeGreeff, Semlak, & Burnett, 2011). In this regard, Adriaensens, Struyf, and Beyers (2015) found that students who perceived their stuttering as more severe scored lower on specific domains of self-esteem, such as social acceptance and the ability to make close friends. Or as Beilby et al. (2013) summarized: *"the expectancy of social harm is the anticipation of stuttering in a social context that ultimately adversely affects the public interaction and increases the people who stutter's negative self-perceptions"* (p. 26).

Taking into account the possible difficulties in social interaction, not surprisingly peer interaction of SWS has been the subject of past research. In general, studies demonstrate that students with special educational needs are more likely to be rejected (Bossaert, De Boer, Frostad, Pijl, & Petry, 2015; Margalit, 2010; Pijl, Frostad, & Flem, 2008). In particular, SWS could be seen as shy or withdrawn and possibly, because of these perceived characteristics, could be less accepted by peers (Davis, Howell, & Cooke, 2002). Also, other, more overt characteristics, specific to stuttering, could trigger mimicking and name calling, and increase the risk of exclusion (Rose, Swearer, & Espelage, 2012). Different studies indeed reported that SWS are less popular than their more fluent peers and are at increased risk of being rejected and bullied by their classmates (Blood & Blood, 2004; Blood et al., 2011; Davis et al., 2002; Erickson & Block, 2013; Hugh-Jones & Smith, 1999). However, according to Hearne, Packman, Onslow, and Quine (2008) stuttering does not necessarily interfere with social life during adolescence. In addition, although stuttering often is associated with teasing and bullying, it often does not have an impact on establishing friendships (Blood, Blood, Tellis, & Gabel, 2003; Daniels, Gabel, & Hughes, 2012; Klompas & Ross, 2004).

1.1. A sociometric perspective on research on stuttering

The social interaction of SWS has been studied using different approaches, such as (self-) ratings of the psychosocial impact of stuttering (e.g. Erickson & Block, 2013), projective measures of social distance as perceived by non-stuttering participants (e.g. McKinnon, Hess, & Landry, 1986), retrospective self-reports (e.g. Daniels et al., 2012) and sociometric measures of classroom interaction (e.g. Davis et al., 2002). According to Davis et al. (2002) several of these methods show inherent problems and limitations. For example, retrospective studies sometimes use data of adults who stutter, looking back at their school career, sometimes more than two decades ago (e.g. Daniels et al., 2012; Hugh-Jones & Smith, 1999). Also, peer interaction and peer group status are rather difficult to measure with methods that do not involve the peer group (Rubin et al., 2009). While studies often focus merely on individual perceptions, attitudes and beliefs, a sociometric perspective also looks at interaction between actors. The basic principle of sociometrics is that every group member has to evaluate every other group member on one or more criteria. By taking into account the presence, absence and reciprocity of nominations among pairs of classmates patterns of interaction within a classroom could be identified. In summary, by using a sociometric perspective both the perceptions of the SWS and their peers are considered to measure the social impact of stuttering.

1.2. Social network analysis

To our knowledge only one recent study in the area of stuttering, namely the study of Davis et al. (2002), used sociometric data to evaluate the classroom interaction of pupils and students who stutter. In accordance with many other studies on peer interaction, the sociometric measure focused on the assessment of sociometric status (Rubin et al., 2009). This means that Davis et al. (2002) used one measure, namely the amount of nominations someone received. Social Network Analysis (SNA) (Borgatti, Everett, & Johnson, 2013; Carrington, Scott, & Wasserman, 2005; Scott, 2013), also relies on sociometric data, and offers a variety of measures that include information about direct (e.g., who did you nominate and who nominated you?) and indirect nominations (e.g., who nominated your friends?) of all classmates. SNA therefore offers insight in the reciprocity of nominations and in how influential a student is in the overall structure of the classroom. The latter takes into account nominations throughout all classmates (direct and indirect nominations). This way, SNA offers the potential to provide detailed insight into each student's position in the classroom and into the overall structure of classroom interaction (see also 2.3 Data Analyses). In sum, SNA provides tools of analysis to quantify and visualize a 'web of connections' or network of social life. As such, SNA yields a better understanding of the underlying patterns of social interaction of SWS within the classroom.

Since the 1970s the interest in SNA has grown extensively. The approach has been applied in different disciplines, such as sociology, social psychology and educational sciences (Brass, Labianca, Mehra, Halgin, & Borgatti, 2014; Carolan, 2014). For example, students with disabilities are more likely to be identified as peripheral and even isolated, and children with autism