Executive functioning as a predictor of peer victimization in adolescents with and without an Autism Spectrum Disorder

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A B S T R A C T
The present study examined pragmatic language and executive functions (EF) as predictors of peer victimization in three groups: high-functioning adolescent boys with an Autism Spectrum Disorder (ASD) (n = 30); typically developing adolescent boys (n = 40); and adolescent boys (n = 22) without ASD with special education needs (SN). Controlling for age and bullying others, regression analyses revealed EF as measured by the Behavior Rating Inventory of Executive Functioning (Gioia et al., 2000) to be a significant predictor across all types of peer victimization (physical, social, and verbal) regardless of group membership. It is concluded that EF may play a pivotal role in explaining why some SN adolescents with and without ASD are at-risk for peer victimization.

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1. Introduction

Over the last three decades Autism Spectrum Disorders (ASD) has become one of the most widely studied disorders of childhood. ASD, which until very recently included Autistic Disorder, Asperger’s Disorder, and Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS), all share the essential features of qualitative impairment in social interaction and communication, and restricted and repetitive patterns of behavior [American Psychiatric Association (APA), 2000]. An emerging body of research strongly suggests that children and adolescents with ASD are at greater risk of being bullied than their typically developing (TD) peers (Humphrey & Symes, 2010, 2011; Kloosterman, Kelley, Craig, Parker, & Javier, 2013; Little, 2002; Wainscot, Naylor, Sutcliff, Tantam, & Williams, 2008). What is less clear, however, are the factors that contribute to the elevated risk of peer victimization in this population. Pragmatic language and executive functioning are two factors linked with social functioning in both TD individuals and individuals with ASD (Gilotty, Kenworthy, Sirian, Black, & Wager, 2002; Jacobson, Willisford, & Pianta, 2011; McKown, Gumbiner, Russo, & Lipton, 2009; Oerlemans et al., 2013; Reichow, Salamack, Paul, Volkmar, & Klin, 2008). The present study sought to examine relationships among pragmatic language, executive functioning and peer victimization.

Although definitions of peer victimization vary in the literature, most include three common characteristics: (1) the act is performed with the intent of causing harm, (2) it is repeated over time, and (3) there is an imbalance in power between those
involved (Craig & Pepler, 2003). There are various types of peer victimization, most often categorized as physical, verbal, and relational. Physical victimization is most obvious and includes kicking, pushing, punching, assaulting or beating the victim, whereas verbal victimization includes the psychological attributes of repeated name calling, teasing, and/or making derogatory remarks. Relational victimization is considered a form of social aggression because it interferes with the social relationships between the victim and his or her peers (i.e. excluding individuals from group activities; being humiliated in front of others). This form of peer victimization appears to be more common than physical victimization and has been observed quite early in life with preschool children (Crick et al., 2006).

Research with TD adolescents has shown that those individuals who bully others are more likely to have externalizing problems, such as substance abuse and delinquency (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000; Sourander et al., 2006); on the other hand a constellation of internalizing behaviors (i.e. poor self-esteem, shyness, depression, anxiety, loneliness) have been linked to victimization (Craig, 1998; Dyer & Teggart, 2007; Holt, Finkellhor, & Kantor, 2007; Jantzer, Hoover, & Narloch, 2006; Klomek, Marrocco, Kleinman, Schonfeld & Gould, 2007; Kumpulainen, Rasanen, & Puura, 2001; Olweus, 1997).

Levels of peer victimization appear to vary depending on age and grade of individuals. In the bullying literature, the transition from elementary to secondary school has received much attention as it is during this time that bullying behavior persists (Nansel et al., 2001; Pepler et al., 2006; Sumter, Baumgartner, Valkenburg, & Peter, 2012). Cross-sectional studies indicate that this peak in bullying behavior is followed by decreased rates by the end of secondary school (e.g., Pepler et al., 2006). However, longitudinal research has shown that for a small portion of adolescents, bullying behavior remains stable and persists across the secondary school years.

1.1. Experiences with bullying in individuals with ASD

In the first published empirical study on experiences with bullying in ASD, Little (2002) surveyed 411 mothers of children with ASD and/or a non-verbal learning disability and reported that 94% of the children had been bullied by a peer at least once in the past year; when compared to a national internet sample of TD children, the children with ASD were four times more likely to experience peer victimization. In a subsequent study, Wainscot et al. (2008) interviewed 30 adolescents with ASD and found that they experienced almost three times more peer victimization than their TD peers. As well, 40% of the adolescents with ASD in Wainscot et al.’s study reported that they experienced peer victimization on a daily basis, whereas only 14.8% of the TD adolescents reported this same frequency of occurrence. Additionally, Humphrey and Symes (2010) reported that adolescents with ASD experienced significantly more peer victimization in the form of peer rejection than TD adolescents or adolescents with dyslexia. Kloosterman et al. (2013) found that adolescents with ASD were more likely to be physically bullied and experienced more social isolation than their TD peers. Although these findings clearly highlight an elevated risk of peer victimization for children and adolescents with ASD, little empirical research has been conducted to determine why this population may be at risk. It is not clear, for example, whether factors associated with social functioning may contribute to some types of peer victimization more so than others. To the best of our knowledge, the present study is one of the first to examine the association between social-cognitive factors (pragmatic language and executive functioning) and types of peer victimization experienced by adolescent boys with ASD.

1.2. ASD and elevated risk for victimization

It has been suggested that individuals with ASD are more vulnerable to peer victimization due to their impairments in communication and social interaction (Fisher, Moskowitz, & Hodap, 2013; Heinrichs, 2003; Humphrey & Symes, 2011; Volkmar & Klin, 2000). For example, Cappadocia, Weiss, and Pepler (2012) examined the relationship between peer victimization and social skills deficits and communication difficulties in a sample of 192 youth with ASD. Using data from parental reports, youth were classified according to level of peer victimization (victimized versus not victimized). It was found that those who were victimized were approximately 5 times more likely to have greater communication difficulties than those who were not. No difference was found between the two groups for deficits in social skills, although the youth who were victimized had significantly fewer friends than those who were not. Fisher et al. (2013) also used parental reports to compare social vulnerability and experiences of peer victimization with a group of individuals with ASD to those with William’s syndrome, or Down syndrome. The three groups did not differ significantly in the rates and types of peer victimization experienced; however, those with ASD were found to have a diminished peer network with only 50% of the parents reporting that their child had a friend. In addition, those with ASD were rated as having significantly more difficulty than the other two groups in reading social cues (e.g. facial expressions). It is worth noting that both Cappadocia et al. (2012) and Fisher et al. (2013) lacked a TD control group and their findings were based entirely on parental reports. Research with TD adolescents has found that parents are not always aware of the peer victimization experienced by their child/children (Mishna, Pepler, & Wiener, 2006; Sawyer, Mishna, Pepler, & Wiener, 2011). Moreover, it is unclear whether children with ASD were bullied more than children with other special needs. The present study addressed this issue by asking adolescents to self-report their experiences regarding peer victimization as well as including an SN control group.

To better understand why children and adolescents with ASD are at greater risk of peer victimization than their TD peers, Humphrey and Symes (2011) proposed the reciprocal effects peer interaction model (REPIM). The REPIM suggests that difficulties in social cognition lead to poor social and communication skills. As a consequence, students with ASD fail to
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