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Impact of adolescent peer aggression on later educational and employment outcomes in an Australian cohort

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ABSTRACT

This study used prospective birth cohort data to analyse the relationship between peer aggression at 14 years of age and educational and employment outcomes at 17 years ($N = 1091$) and 20 years ($N = 1003$). Participants from the Western Australian Pregnancy Cohort (Raine) study were divided into mutually exclusive categories of peer aggression. Involvement in peer aggression was reported by 40.2% (10.1% victims; 21.4% perpetrators; 8.7% victim–perpetrators) of participants. Participants involved in any form of peer aggression were less likely to complete secondary school. Perpetrators and victim–perpetrators of peer aggression were more likely to be in the 'No Education, Employment or Training' group at 20 years of age. This association was explained by non-completion of secondary school. These findings demonstrate a robust association between involvement in peer aggression and non-completion of secondary school, which in turn was associated with an increased risk of poor educational and employment outcomes in early adulthood.

Peer aggression is a common behaviour that is highly prevalent in the school environment (Olweus, 1993). This behaviour is most prevalent between the ages of 9 and 14, coinciding with children's transition from primary to secondary school (Cross et al., 2009). At this time children show a need to re-establish social hierarchy in their new school, which is often used to explain the higher prevalence of peer aggression during this developmental phase (Pellegrini & Long, 2002; Prinstein & Cillessen, 2003).

Abbreviations: Raine, Western Australian Pregnancy Cohort study; NEET, Not in Education, Employment or Training; SES, socioeconomic status; WISC-BD, Wechsler Intelligence Scale for Children – Block Design; PPVT, Peabody Picture Vocabulary Test; OR, odds ratio; CI, confidence interval; YSR, Youth Self Report.

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Researchers frequently differentiate individuals by their role played in aggressive behaviours; as victims, perpetrators or as children who engage in both behaviours, victim–perpetrators (Veenstra et al., 2005). All three groups have consistently been linked to a wide range of adverse mental health and substance use outcomes (Copeland, Wolke, Angold, & Costello, 2013; Heikkila et al., 2013; Moore et al., 2014; Ybrandt & Armelius, 2010). There are fewer studies examining the association between peer aggression and later academic, educational and employment outcomes.

Although some suggest that peer aggression in young children has no impact upon later academic performance (Woods & Wolke, 2004), others report that being a victim of peer aggression in adolescence is associated with lower classroom engagement, lower grades (Juvonen, Wang, & Espinoza, 2011) and higher future absenteeism (Nishina, Juvonen, & Witkow, 2005). Cornell, Gregory, Huang, and Fan (2013) found that peer victimisation in adolescents predicted increased risk of school non-completion. Perpetrating aggression towards adolescent peers has also been associated with lower school grades and higher unexplained absenteeism (Schwartz, Gorman, Nakamoto, & McKay, 2006). Additionally, victim–perpetrators and perpetrators of peer aggression were more likely to have learning problems than children who were solely victimised (Kaukiainen et al., 2002).

A meta-analytic review of peer victimisation and academic performance found a weak but significant association between being a victim of peer aggression and poorer academic performance (Nakamoto & Schwartz, 2010). However, in the absence of long-term prospective studies the authors were unable to establish a temporal relationship showing that peer victimisation preceded problems with academic performance. In addition, studies examining peer aggression and educational outcomes are confined to academic performance at school and have not examined whether these children who are involved in peer aggression have poorer educational or employment outcomes beyond secondary school.

There are a number of factors that may account for the relationship between peer aggression and poorer academic performance in the short-term, including peer rejection, mental health problems, classroom engagement (Juvonen et al., 2011), school connectedness (Skues, Cunningham, & Pokharel, 2005; You et al., 2008), and parent involvement (Spriggs, Iannotti, Nansel, & Haynie, 2007). In addition, children who are rejected by their peers do worse academically than children who are well accepted (Buhs, Ladd, & Herald, 2006; Juvonen et al., 2011). Several authors have suggested that peer rejection is linked to greater absenteeism from school, which is also associated with poorer academic performance (Buhs et al., 2006; DeRosier, Kupersmidt, & Patterson, 1994). Absenteeism may also be a problem for perpetrators and victim–perpetrators of peer aggression as these children are more likely to engage in truancy as part of their spectrum of externalising behaviours, depriving them of learning opportunities. In addition, an individual's level of emotional distress can negatively affect academic performance (Wentzel, Weinberger, Ford, & Feldman, 1990). Students whose mental health is being adversely affected by peer aggression may also be academically disadvantaged (Juvonen, Nishina, & Graham, 2000; Nansel, Craig, Overpeck, Saluja, & Ruan, 2004). These factors together provide plausible explanations for the association between peer aggression and lower academic performance at school.

Lower academic performance during school is associated with poorer post-school competence (Dubow, Huesmann, Boxer, Pulkkinen, & Kokko, 2006; Wiesner, Vondracek, Capaldi, & Porfeli, 2003). Competence post-school is often measured by employment status or enrolment in higher education programmes. There is some evidence that aggressive behaviour and peer problems in childhood predict employment problems in adulthood (Kokko & Pulkkinen, 2000; Wiesner et al., 2003). Therefore, it has been suggested that peer aggression in adolescence may have cumulative consequences over the long-term, impacting competence in work and study domains in early adulthood. Academic performance, externalising behaviours and peer problems during childhood were associated with poorer work and educational outcomes in early adulthood (Masten, Desjardins, McCormick, Kuo, & Long, 2010).

The aim of this study was to examine the temporal relationship between involvement in peer aggression as a victim, perpetrator or victim–perpetrator at 14 years of age and educational and employment outcomes at 17 and 20 years of age. Furthermore, we aimed to examine for factors that might mediate this association. We hypothesised that involvement in any form of peer aggression at 14 years would be associated with externalising and internalising behaviours as well as increased risk of non-completion of secondary school. We hypothesised that due to the increased risk of externalising and internalising behaviours and the higher rates of school non-completion, those involved in peer aggression during adolescence would be more likely to have poorer educational and employment outcomes compared to those adolescents not involved in peer aggression.

Method

Study population

Participants were from the Western Australian Pregnancy Cohort (Raine) study, a prospective birth cohort study of 2868 children born in Western Australia between September 1989 and April 1992 (Newnham, Evans, Michael, Stanley, & Landau, 1993). Data used in this study were collected when the participants were 8 (74.6% retention), 10 (71.4% retention), 14 (64.9% retention), 17 (61.2% retention) and 20 (51.4% retention) years of age. At 17 years 1091 participants (female 51.9%) and at 20 years 1003 (female 53.3%) participants had completed both the educational and employment sections of the study questionnaires and the peer aggression questionnaire at 14 years. Ethical approval was granted by the Human Research Ethics Committees from the *Princess Margaret Hospital* for Children and King Edward Memorial Hospital in Western Australia and consent was obtained at each follow up stage from the participants' guardians. At 18 years of age, the participants provided