Doing Anger Differently: Two controlled trials of percussion group psychotherapy for adolescent reactive aggression

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A B S T R A C T

This study evaluates efficacy and effectiveness of ‘Doing Anger Differently’ (DAD), a group treatment for reductively aggressive 12–15 year old males. DAD uses percussion exercises to aid treatment. Study 1 compared a ten-week treatment with a waitlist control at pre, post and 6 month (treatment group only) follow-up. Study 2 replicated Study 1, but also followed up controls at 6 months. In study 1 (N = 54) the treatment resulted in lowered trait anger (Cohen’s \(d = -1.3\)), aggression-reports \(d = -1.0\) and depression \(d = -0.6\), and increased self-esteem \(d = 0.6\), all maintained at six months. In study 2 (N = 65), aggression-reports fell to one fifth of pre-treatment levels at nine months follow-up \(d = -1.2\), with lowered trait anger \(d = -0.4\) and anger expression \(d = -0.3\) post-treatment.

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Introduction

High anger and aggression in early adolescence are linked with crimes, violence, low educational achievement, and physical and mental ill health in adolescence and maturity (Colder & Stice, 1998; Coleman et al., 2009; Lacourse et al., 2010; Loebber, 1990; Reef, Diamantopoulou, van Meurs, Verhulst, & van der Ende, 2009; Roeser, Eccles, & Sameroff, 1998). There is also a male vulnerability to these problems (AIC, 2001; Canter, 1982; Loebber, 1990).

Early adolescence is an optimum age to intervene because difficulties with anger and aggression at this age are highly predictive of later morbidity (Loebber, 1990; Loebber & Schmaling, 1985; Reef et al., 2009). Both mild and severe symptoms of externalizing behaviour in adolescence are associated with adult negative outcomes (Colman et al., 2009). Also, early adolescence is a developmental turning point. Harnessing the changes of rapid increases in cognitive abilities (Moshman, 1998), a relatively fluid identity and the increase in the social influence of peers (Steiner et al., 1997), provides an opportunity for intervention prior to the establishment of rigid sets of aggressive, anti-social ideas and identity. After adult–like criminal offending commences, interventions are less successful (AIC, 2001; Dodge, 2008; Weisz & Hawley, 2002).

Cognitive Behavioural treatment for these problems has had some success with children (Larson & Lochman, 2002; Sukhodolsky, Kassinove, & Gorman, 2004) and adults (DiGuiseppe & TafRATE, 2003), but provides only modest and short-term outcomes with early adolescents (e.g. Deffenberg, Lynch, Oetting, & Kemper, 1996) and no gains maintained at six months follow-up or longer. A review of secondary prevention interventions for child and adolescent violence (Fields and McNamara, 2003) found that most treatment programs had at least one statistically significant positive outcome but that, typically, changes in children (including adolescents) were modest and short-term. Another review (Greenberg, Domitrovich, & Bumbarger, 2001) found positive changes in observed aggressive behaviours for programs treating children under 12, but no similar findings for adolescents. A third recent review found that school-based secondary prevention programs can curb...
aggressive behaviours (Mytton, DiGuiseppe, Gough, Taylor, & Logan, 2006), finding evidence for efficacy with adolescents as well as children, but called for further research on the maintenance of treatment gains.

Long-term change in aggressive behaviour (i.e. six months or longer) in early adolescents remains an elusive goal of preventive intervention (Feindler, 1990; Fields & McNamara, 2003; Tolan & Guerra, 1994), though few long-term follow-up studies have been published so far. Experts have called for further research, particularly within the high school setting (Larson, 1998) and for innovative treatments which may be part of a comprehensive school-based approach (Dodge, 2008).

We report here two studies evaluating Doing Anger Differently (DAD), an innovative program which uses structured Latin American percussion exercises to explicate and treat reactive aggression in adolescent males. We defined reactive aggression as aggression where there is anger present, is aimed at causing harm to others and is commonly impulsive (cf Connor, 2002). The dominant treatment procedures on which the DAD program is based are summarized in the design section, below.

**Research questions**

We aimed to test whether the DAD program reduces reactive aggression, and if so, whether DAD could be effectively implemented in a community setting. Study 1 and Study 2 in this paper investigate the efficacy and effectiveness of the DAD program respectively.

**Study 1**

Several factors are relevant to the overall efficacy of a program such as DAD. Trait anger is related to outward, negative and less controlled expression, and negative anger-related consequences (Deffenbacher et al., 1996; Spielberger, 1996). It is thus a useful measure of efficacy. We hypothesized that the intervention would result in lowered levels of trait anger.

However, internalizing and externalizing problems tend to occur together in adolescents. Improvements in both domains entail a lowered risk of relapse (Greenberg et al., 2001). Outcome trials should evaluate other negative emotions to ensure that a genuine anger reduction has occurred, and not simply a displacement of negative affect into other domains such as self-denigration (Deffenbacher, Oetting, & DiGiuseppe, 2002). We hypothesized that the intervention would result in lowered depression and increased self-esteem.

Self-report is appropriate to measure subjective emotions (Deffenbacher et al., 2002). However, assessment of efficacy cannot be left only to self-report as increases in aggression following the group treatment of anger are not uncommon (Ang & Hughes, 2002). We therefore assessed changes in other-reported aggressive behaviour. We hypothesized that the intervention would result in lowered aggression.

Maintenance of changes is an indicator of the efficacy of an intervention (Deffenbacher et al., 2002). In prevention terms, the greater the length of maintenance of changes, the greater the risk reduction. We hypothesized that the intervention effects would be maintained at least until six months follow-up.

**Method**

**Participants**

Participants (N = 54) with a record of at least two aggressive in-school misbehaviours were referred by school staff (Deputy Principal or Head Of Welfare). Written consent from parents and participants was followed by semi-structured interviews of participants who were then administered the measures by research staff (see below). The interview assessed participants’ anger problems by discussion of two recent angering situations. Two participants with psychotic diagnoses (defined as delusions or hallucinations within the last six months), five participants who were unwilling to attend the group due to other commitments, and 18 whose trait anger score was below the 70th percentile according to normative data for adolescents (Spielberger, 1996) were excluded. Fifty-four participants whose trait anger scores placed them on the 70th percentile or above were accepted into the study (see the CONSORT diagram at Fig. 1). A record of aggressive misbehaviour as defined above was the main inclusion criterion, and the trait anger cut-off ensured that the aggression had a reactive component rather than being only instrumental. Participants attended five schools in the Hunter region of Australia, in regional and rural locations of low socio-economic status. Participants were in years 7 (n = 8), 8 (n = 16), 9 (n = 21), and 10 (n = 9), and had a mean age of 13.8 years (SD = .89, range 12.1–15.4). Participants had intact families (13), single parent families (31), a step-parent (6), or lived in foster care (4).

**Measures**

Trait anger was measured by the 10 item (range = 10–40) Trait Anger Scale (TAS). The Trait Anger Scale correlates positively with many other measures of anger and anger-related consequences, and reliably discriminates high- from low- anger groups (Deffenbacher, 1992; Spielberger, 1996). The degree of outward, negative, aggressive anger expression was assessed by the 8-item (range 8–24) Anger-Out (AXOUT) scale (Spielberger, 1996). This sub-scale of the STAXI has been shown to be correlated with the incidence of angry aggression (Spielberger, 1996). Depression was assessed using the Beck Depression Inventory (BDI; Beck & Steer, 1987). This 21-item measure is utilized widely and acknowledged as a reliable and valid measure of depression severity in adolescents (Beck, Steer & Garbin, 1988). Self-esteem was measured by the 58-item Coopersmith Self Esteem Inventory, School Form; CSEI; Coopersmith, 1981). The Coopersmith Self Esteem Inventory is an...
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