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Journal of School Psychology xxx (xxxx) xxx-xxx



Contents lists available at ScienceDirect

## Journal of School Psychology



journal homepage: www.elsevier.com/locate/jschpsyc

# Testing the feasibility of a briefer school-based preventive intervention with aggressive children: A hybrid intervention with face-to-face and internet components<sup> $\star$ </sup>

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## ARTICLE INFO

Action editor: Andy Garbacz Keywords: Prevention Internet intervention Hybrid intervention Conduct problems Aggression

## ABSTRACT

This study describes the results from a feasibility study of an innovative indicated prevention intervention with hybrid face-to-face and web-based components for preadolescent youth. This intervention includes a considerably briefer set of face-to-face sessions from the evidence-based Coping Power program and a carefully integrated internet component with practice and teaching activities and cartoon videos for children and for parents. The Coping Power - Internet Enhanced (CP-IE) program introduces a set of cognitive-behavioral skills in 12 small group sessions for children delivered during the school day and 7 group sessions for parents. Eight elementary schools were randomly assigned to CP-IE or to Control, and six children at each school were identified each year based on 4th grade teacher ratings of aggressive behavior. Path analyses of teacher-rated disruptive behavior outcomes for 91 fifth grade children, across two annual cohorts, indicated Control children had significantly greater increases in conduct problem behaviors across the 5th grade year than did CP-IE children. This much briefer version of Coping Power provided beneficial preventive effects on children's behavior in the school setting similar to the effects of the longer version of Coping Power. The website materials appeared to successfully engage children, and parents' use of the website predicted children's changes in conduct problems across the year.

### 1. Introduction

Aggressive children can create challenges in school settings, and can ultimately cause large costs to society and their families through the expensive substance use, court, mental health, and school services they require (Foster, Jones, & Conduct Problems Prevention Research Group, 2005). Youth who engage in the most persistent, severe, and violent antisocial behavior in the adolescent years are most likely to initiate aggression as children rather than as adolescents (Lahey, Waldman, & McBurnett, 2001). Children's aggressive behavior during the preadolescent years is associated with concurrent emerging conduct problems, and importantly predicts the likelihood of these children emitting more serious conduct problems involving criminal behavior and substance abuse during adolescence (Coie, Lochman, Terry, & Hyman, 1992; Lochman & Wayland, 1994). The primary period of escalation of youths'

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http://dx.doi.org/10.1016/j.jsp.2017.03.010

Received 3 September 2015; Received in revised form 30 July 2016; Accepted 30 March 2017

0022-4405/  $\odot$  2017 Published by Elsevier Ltd on behalf of Society for the Study of School Psychology.

<sup>\*</sup> This paper has been supported by a grant from the National Institute on Drug Abuse (R34 DA045295) to the first author.

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police arrests and substance use occurs in the period from early to late adolescence (Patterson, Dishion, & Yoerger, 2000). Thus, a key time to provide preventive intervention to aggressive children is in the preadolescent years, just before their transition to middle school (e.g., Greenberg et al., 2003).

It has been recognized for many years that schools represent optimal environments to provide interventions to prevent delinquency and substance abuse outcomes because of the amount of time that children spend within the school setting (Allen, Chinsky, Larcen, Lochman, & Selinger, 1976; Holt & Grills, 2016). School-based programs that prevent serious adolescent violence and conduct problems even for just a portion of the at-risk children receiving the intervention (and with overall small effect sizes for the full samples) can be cost-effective because of the reduction they can produce in costly correctional and mental health services as youth develop through adolescence and young adulthood (Foster, Jones, & Conduct Problems Prevention Research Group, 2006). However, existing prevention programs for at-risk children with aggressive behavior are often lengthy, which can create barriers for the implementation and sustained use of the programs in schools (e.g., Lochman et al., 2015).

#### 1.1. Length of intervention: barriers and opportunities for briefer hybrid interventions

Owens et al. (2002) have reported that structural barriers exist that are associated with low utilization of mental health services. One central structural barrier is that intervention can be perceived by participants and practitioners to be too demanding and too lengthy (Kazdin, Holland, & Crowley, 1997). The latter is a particularly important concern for interventions dealing with children's aggressive behavior, as it has been argued that longer intervention periods may be necessary to make sustained changes in children's otherwise stable aggressive behavior (Kazdin, 2005). As a result of this perceived need to have an intervention sufficiently long to address the many risk factors associated with children's aggressive behavior, the Coping Power program was developed originally to have 34 child sessions and 16 parent sessions (nearly 60 actual intervention hours). Despite successful outcomes, parent and youth participants, practitioners, and school settings have expressed concerns about the length of the intervention, and these concerns can decrease the practical public health significance of evidence-based interventions.

There are encouraging indications that briefer interventions can be effective. A meta-analysis has reported that stronger effect sizes for outcomes from behavioral parent training programs have been found for briefer 5 session programs in comparison to programs that last 16 or more sessions (Maughan, Christiansen, Jenson, Olympia, & Clark, 2005). Similarly, a briefer version of Coping Power (24 child sessions, 10 parent sessions) has produced significant reductions in teacher ratings of children's externalizing behaviors at longer-term follow-ups (Lochman et al., 2014). Such results are encouraging, and suggest that innovative methods, such as use of multimedia interventions, could be used to create an even briefer, more efficient version of the program that could be embraced more readily by parents, counselors, and other school personnel, and thus more successfully engaging a wider range of atrisk children and their parents.

An innovative way of offering briefer interventions in a preventive intervention is to include internet-based content (Lightfoot, Comulada, & Stover, 2006). Children are easily engaged by multi-media and computer-based interventions (Paperny, 1997) and internet delivery of program content allows the intervention to be more accessible and efficient (Bishop, Bryant, Giles, Hansen, & Dusenbury, 2006; Comer et al., 2015; Taylor et al., 2008). Internet applications have produced positive effects on children's internalizing symptoms and management of chronic health conditions, but have been rarely examined rigorously as an intervention for aggressive and conduct problem behavior in children (Boydell et al., 2014; Stinson, Wilson, Gill, Yamada, & Holt, 2009). In this "flipped learning" approach to intervention delivery, transmission of new information takes place primarily during out-of-meeting time (with traditional face-to-face provision of information being replaced with out-of-class activities such as video-based content), with face-to-face time used primarily for active, collaborative learning, and application of the information (Abeysekera & Dawson, 2015). Although cognitive behavioral programs, including the traditional form of Coping Power, do include out-of-session homework activities, this approach expands on that.

Although internet delivery of interventions may be sufficient in providing simple information that can help to alleviate internalizing problems and improve coping with health conditions (Boydell et al., 2014; Stinson et al., 2009), the personal assistance of a clinician in a hybrid intervention delivery model may be important in modifying more significant, stable behavioral habits such as aggression (Lightfoot et al., 2006). In one of the few reports on this form of intervention delivery with children with behavior problems, Taylor et al. (2008) used a hybrid model of the Incredible Years program which combined computer and web-based delivery of information and video modeling vignettes along with direct professional intervention through home visits and phone calls. This hybrid model of the Incredible Years program with Head Start families with preschool children led to a high level of parental satisfaction with the program and to an increased completion rate of the program. However, no evidence-based hybrid models are available for indicated prevention or for preadolescent aggressive children during the critical developmental period when prevention may reduce the expected escalation in serious antisocial behaviors in early adolescence. The hybrid Coping Power program examined in this paper, which was based on the evidence-based full-length Coping Power program, is an effort to respond to this need.

#### 1.2. Coping Power program

The Coping Power program (Lochman & Wells, 2002a) was developed as an indicated prevention program (National Research Council and Institute of Medicine, 2009) for preadolescents who are at-risk because their problem behaviors can be precursors for later severe conduct problems, substance abuse, and juvenile delinquency. Coping Power was derived from earlier research on the Anger Coping Program (Larson & Lochman, 2011; Lochman, Nelson, & Sims, 1981), which in turn derived from early efforts to introduce prevention into school-based settings (Allen et al., 1976). The Anger Coping Program had been refined, tested, and

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