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Cognitive-behavioral therapy for anger in children and adolescents: A meta-analysis

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Abstract

The meta-analysis of the treatment outcome studies of cognitive-behavioral therapy (CBT) for anger-related problems in children and adolescents included 21 published and 19 unpublished reports. The mean effect size (Cohen's $d = 0.67$) was in the medium range and consistent with the effects of psychotherapy with children in general. The differential effects of skills training, problem solving, affective education, and multimodal interventions ($d = 0.79$, 0.67, 0.36, and 0.74, respectively) were variable although also generally in the medium range. Skills training and multimodal treatments were more effective in reducing aggressive behavior and improving social skills. However, problem-solving treatments were more effective in reducing subjective anger experiences. Modeling, feedback, and homework techniques were positively related to the magnitude of effect size.

Keywords: Cognitive-behavioral therapy; Anger; Aggression; Child; Adolescent; Meta-analysis

1. Introduction

Anger-related problems, such as oppositional behavior, hostility, and aggression, are some of the main reasons that children and adolescents are referred for counseling or psychotherapy (Abikoff & Klein, 1992; Armbruster, Sukhodolsky, & Michalsen, 2001). While anger-related

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problems constitute the central feature of disruptive behavior disorders and are frequently associated features of attention-deficit hyperactivity disorder (American Psychiatric Association, 1994), they are often present in other childhood disorders. Inspection of the DSM-IV disorders applicable to youth reveals several diagnostic criteria, associated features, and descriptors that are relevant to anger. Irritability is a prominent feature of all major mood disorders, including bipolar disorders and depressive disorders. In adjustment disorders involving disturbance of emotions or conduct, there often are violation of the rights of others, aggressive behavior, and persistent anger. Aggressiveness, poor impulse control, and intense anger and hostility are, likewise, characteristics of a broad range of disorders involving abuse or withdrawal from alcohol or other drugs. Intermittent explosive disorder is defined primarily by discrete episodes of loss of control of aggressive behavior. Finally, Tourette's disorder and obsessive-compulsive disorder in children may cooccur with temper tantrums and oppositional behavior.

1.1. Phenomenology and elements of the anger construct

Several models of anger were considered to provide a conceptual framework for this meta-analysis. Novaco (1975) proposed a model of anger, which includes subjective emotional states, environmental circumstances, physiological arousal, cognitions of antagonism, and corresponding behavioral reactions. The subjective affect is determined by cognitive labeling of physiological arousal as "being angry." This cognitive labeling is a highly automatic process, which is associated with an inclination to act in a confrontational manner toward the source of provocation. This action impulse is regulated by internal and external mechanisms of control, which may be overridden by the intensity of any one of the elements of anger. Spielberger (1988) proposed a factor-analytical model of anger that distinguished between anger experience and anger expression. Within this model, anger experience is viewed as a subjective experience varying in duration and intensity. Anger expression is viewed as an individual's tendency to act on anger by showing it outwardly, suppressing it, or actively coping with it. However, Spielberger et al. (1983) also suggested that there are unclear boundaries among the related concepts of anger, hostility, and aggression and that the three can be integrated into a collective "AHA syndrome." Within this syndrome, anger refers to emotional states, hostility refers to antagonistic beliefs, and aggression refers to overt harmful behavior.

Several social-cognitive models have detailed cognitive processes that may be related to anger and aggression. These models stem from the original social learning formulations by Bandura (1973) as well as models of problem solving (d'Zurilla & Goldfried, 1971) and causal attribution (Kelley, 1972). The social information processing model developed by Dodge (1980) postulated a five-step sequential model of cognitive processes: encoding of social cues, interpretation of cues, response search, response decision, and enactment of behavior. Disruption in any of these processes can lead to anger and aggressive behavior. Kendall (1991) made a distinction between cognitive deficiencies and cognitive distortions. Deficiencies refer to the absence of thinking, such as not thinking about the consequences of one's behavior, and distortions, such as a hostile attribution bias, refer to the faulty processing