

**The Sixth Study**

**A Review of the Literature on Anger Management  
Interventions for Elementary Students**

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### Abstract

The number of students who exhibit anger and behavioral issues is a serious problem in schools. Poor anger control may lead to poor academic performance, preventing them from being successful in school and life. This is especially true for elementary school students. The purpose of the present review of the literature is to evaluate the effectiveness of anger management interventions on decreasing anger and aggressive behavioral problems among students in elementary schools. The study used a systemic approach to identify 36 empirical studies supporting the use of anger management interventions to decrease the anger and aggressive behaviors of elementary-aged students. Results of the review indicated that anger management intervention may be considered as an effective intervention for elementary students with an anger and aggressive behaviors. The results of reviewed studies indicated that anger management interventions lead to decreased anger and aggressive behaviors among elementary school students. Implications for future research and practice are discussed.

**Keyword:** anger management interventions, anger control, individualized behavioral plans, managing anger, elementary school, self-regulation, behavioral management

مراجعة الأدبيات حول تدخلات إدارة الغضب لطلاب المرحلة الابتدائية

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### ملخص :

يعتبر عدد الطلاب الذين يظهرون مشاكل الغضب والسلوك مشكلة خطيرة في المدارس. قد يؤدي ضعف التحكم في الغضب إلى ضعف الأداء الأكاديمي ، مما يمنعهم من النجاح في المدرسة والحياة. وهذا ينطبق بشكل خاص على طلاب المدارس الابتدائية. والغرض من المراجعة الحالية للأدب هو تقييم فعالية تدخلات إدارة الغضب في تقليل الغضب والمشاكل السلوكية العدوانية بين الطلاب في المدارس الابتدائية. واستخدمت الدراسة منهجاً لتحديد (36) كدراسة تجريبية تدعم استخدام تدخلات إدارة الغضب لتقليل الغضب والسلوك العدواني للطلاب في سن الابتدائية. وأشارت نتائج المراجعة إلى أن تدخل إدارة الغضب يمكن اعتباره تدخلاً فعالاً لطلاب المرحلة الابتدائية الذين يعانون من السلوكيات الغاضبة والعدوانية. كما أشارت نتائج الدراسات التي تمت مراجعتها إلى أن تدخلات إدارة الغضب تؤدي إلى انخفاض الغضب والسلوكيات العدوانية لدى طلاب المرحلة الابتدائية. وتمت مناقشة الآثار المترتبة على البحث والممارسة في المستقبل

**الكلمات الرئيسية:** تدخلات إدارة الغضب ، السيطرة على الغضب ، الخطط السلوكية الفردية ، إدارة الغضب ، المدرسة الابتدائية ، التنظيم الذاتي ، الإدارة السلوكية.

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## **A Review of the Literature on Anger Management Interventions for Elementary Students**

The number of students with anger issues is a serious problem in schools (Burt, Patel, & Lewis, 2012; Burt, Patel, Butler, & Gonzalez 2013; Scheckner & Rollin, 2003). Behaviors associated with anger negatively impact elementary students' academic performance preventing them from being successful in schools and life (Burt et al., 2012; Smith, Siegel, O'connor, 1994). The exhibition of anger behaviors is believed to be associated with a difficulty to control emotions (Cole, Treadwell, Dosani, & Frederickson, 2013). According to Scheckner and Rollin (2003) and the National Center for Educational Statistics (2010), violence in schools has been increasing in recent years. Coupled with this increase is the increase in aggressive behaviors that involve a gun in elementary (2%), middle (12%), and high school (13%).

Anger behaviors are defined as behaviors, such as arguing, yelling, swearing, or refusing to complete a given academic task, and may be exhibited in school or at home. Anger behaviors may lead to aggressive behaviors (e.g., hitting, kicking, bullying others, fighting) if anger management issues are not addressed, especially in elementary-age students (Burt et al., 2012; Cole et al., 2013; Smith et al., 1994). Students who do not have the ability to manage anger (emotional reactions) are more likely to be excluded from schools (Cole et al., 2013). The increasing number of students who exhibit aggressive anger behaviors present a serious educational problem leading schools to implement anger management interventions as early as elementary-age students (Burt et al., 2012; Scheckner & Rollin, 2003).

Anger management refers to a student's ability to monitor behaviors, recognize behavioral reaction, understand anger, and use approaches to manage anger situations, such as calming down (Nickerson & Coleman, 2006; Suveg, Sood, Comer, Kendall, 2009). It is never too early to teach students strategies to control anger behaviors. Providing models demonstrating aggressive and non-aggressive behaviors to elementary age students has been shown to readily influence their behaviors (Bandura et al., 1963). A model is an essential element to teach students forms for managing their anger and behaviors successfully and develop their ability to control their anger (Camp, Blom, Hebert, & van Doorninck, 1977; Lochman, Nelson, & Slims, 1981). Camp et al., (1977) implemented the Think Aloud Program for elementary-school students with aggressive behaviors and found that the program helped them develop self-control. The program involved developing answers to basic questions (e.g., "What is my problem?"), while modeling the think aloud strategy (Camp et al., 1977).

There are a number of anger management interventions that have resulted in increased student self-control and decreased aggressive behaviors. Lochman, Nelson, and Sims (1981) implemented a cognitive behavioral program for elementary students with anger and aggressive behavioral problems using techniques, such as self-talk. This intervention involved positive self-statements (e.g., stop, think) that developed a student's ability to management his/her behaviors. Lochman et al., found that the participants' aggressive behaviors (e.g., hitting) decreased significantly ( $p < .05$ ), and the students' anger control improved by the end of the intervention. Thus, providing students with anger and aggressive behavior rehearsal and modeling has served increase students' self-control and decrease aggressive behaviors at the same time (Bandura et al., 1963; Camp et al., 1977; Lochman et al., 1981).

The increase of anger issues and violent behaviors (e.g., fighting) among school students requires effective strategies to address students' anger and aggressive behaviors. This is especially relevant in elementary-age students (Cole et al., 2013; Scheckner & Rollin, 2003). The purpose of this literature review is to determine the effectiveness of anger management interventions for decreasing anger problems and aggressive behaviors (e.g., threats, hitting) among students in elementary school in order to identify current interventions used and factors important for elementary age students to learn how to control and manage their anger. In addition, this study is interested in the most effective methods identified in the literature and the importance of early intervention for elementary students. Following the literature review, the methods for inclusion and results will be presented. Finally, a discussion of the results will be presented, along with the limitation associated with anger management intervention, implication for educational professionals, and implications for future research.

### **Method**

#### **Literature Data-Base**

Many studies have researched the impact of anger management interventions in reducing anger and aggressive behaviors (e.g., Akgun & Araz, 2014; Nickerson & Coleman, 2006; Suveg et al., 2009). Four databases were used: the Old Dominion University Library (ODU) Library Database, Google Scholar, Saudi Digital Library (SDL), and SAGE Journals to find empirical studies that demonstrated the impact of anger management interventions in elementary educational settings.

### **Literature Terms Search**

The keywords used to find articles were as follows: *anger management interventions, anger control, individualized behavioral plans, managing anger, elementary school, and behavioral management*. Also, *conflict regulation* and *emotional regulation* were terms used to find additional sources on the effectiveness of anger management interventions for elementary-aged students.

**Initial search findings.** The use of search terms resulted in finding 36 articles. The Old Dominion University Library Database provided nine articles, Google Scholar resulted in 10 articles, SAGE Journals provided 10 articles, and the Saudi Digital Library database had seven results.

### **Inclusion Criteria for Selecting Articles**

To be included in this literature review, the 36 initial studies were reviewed to determine whether they met the five inclusion criteria. First, studies had to be published in a peer-reviewed journal. Second, the studies were published between 1990 and 2017. The starting date of 1990 was chosen to ensure thorough analysis of effective interventions over a period of time (3 decades). Third, the studies tested the effectiveness of anger management interventions with elementary-age students (e.g., kindergarten to fifth grade). Fourth, the studies used an experimental design (e.g., quasi-experimental, pre-posttest design, multiple baseline design). Fifth, anger and aggressive behaviors were considered dependent variables (e.g., decreased hitting and threats, increased awareness of anger among students).

### **Exclusion Criteria for Exclusive Articles**

Studies were excluded from this review if they meet the following exclusion criteria: studies that were not written in the English language (e.g., Arabic), studies published before 1990, doctoral dissertation and master's thesis studies, and studies targeting populations other than elementary students (e.g., preschool, middle, and high school students). In total, 11 of 36 studies met the inclusion criteria and were included in this review: Akgun and Araz (2014), Burt et al. (2012), Burt et al. (2013), Cole et al. (2013), Lipman et al. (2006), Lopata (2003), Nickerson and Coleman (2006), Scheckner and Rollin (2003), Smith et al. (1994), Suveg et al. (2009), and Zeman et al. (2002).

### **Results of Literature Review**

This literature review examined empirical studies to assess the effectiveness of anger management interventions to help elementary students develop the ability to control their anger and aggressive behaviors (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Cole et al., 2013; Lipman et al., 2006; Lopata, 2003; Nickerson & Coleman, 2006; Scheckner & Rollin, 2003; Smith, Siegel, O'conor, & Thomas 1994; Suveg, Sood, Comer, & Kendall, 2009; Zeman, Shipman, & Suveg et al., 2002).

### **Participants**

The target population of the reviewed empirical studies was elementary-age students with anger and/or aggressive behaviors (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Cole et al., 2013; Lipman et al., 2006; Lopata, 2003; Nickerson & Coleman, 2006; Scheckner & Rollin, 2003; Smith et al., 1994; Suveg et al., 2009; Zeman et al., 2002). Male participants comprised more than 50% of the total participants in each study. The highest percentage of girls was 47 % (Zeman et al., 2002). This review was a response to the need for effective anger management interventions to address aggressive behaviors in the early stages of student careers in order to prevent the escalation of behaviors into more difficult situations (e.g., violent behaviors), which ultimately require more intensive intervention (Burt et al., 2013; Scheckner & Rollin, 2003; Smith, et al., 1994). The majority of Participants' range between the ages of seven and 11 (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Cole et al., 2013; Lipman et al., 2006; Scheckner & Rollin, 2003; Smith et al., 1994; Zeman et al., 2002). One study (Lopata, 2003), however, implemented a progressive muscle relaxation intervention to reduce aggression with students between 6 and 9 years old. Also, Nickerson and Coleman (2006) used anger-coping group therapy to improve anger control and behavioral outcomes of five students between the ages of 10 and 12-years-old. Another study a study (Suveg et al., 2009) conducted a study involving cognitive behavioral therapy to improve the emotional awareness of anger and sadness with students between the age of 7 and 15 years-old.

The number of participants varied in the studies included in this literature review. Some research involved more than 100 participants who received anger management training to reduce depression and aggression (Akgun & Araz, 2014; Lipman et al., 2006; Zeman, 2002).

Other studies involved 20 to 70 participants to assess the effectiveness of anger management training (Burt et al., 2012; Burt et al., 2013; Cole et al., 2013; Lopata, 2003; Scheckner & Rollin, 2003; Suveg et al., 2009). Two studies, Nickerson and Coleman (2006) and Smith et al. (1994) implemented cognitive behavioral interventions with less than 10 participants in each study.

### **Research Design**

A pre- and posttest design was used in nine (82%) of the studies reviewed (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Lipman et al., 2006; Lopata, 2003; Nickerson & Coleman, 2006; Scheckner & Rollin, 2003; Suveg et al., 2009; Zeman et al., 2002). Only one study (9%) of the reviewed studies, employed a multiple baseline design that included three phases: a baseline phase, an intervention phase, and a maintenance phase (Smith et al., 1994). Another study used a mixed-group design in which the researchers implemented cognitive behavioral therapy with 70 participants with anger difficulties (Cole et al., 2013). The major finding of this review was that of the studies reviewed, eight (73%) of the studies involved treatment groups, researchers tested participants before and after the anger management intervention to assess the effectiveness of the intervention (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Lipman et al., 2006; Lopata, 2003; Nickerson & Coleman, 2006; Smith et al., 1994; Suveg et al., 2009). The (36%) of the studies involved treatment and control groups to evaluate the effectiveness of the intervention to develop anger regulation and decrease aggressive behaviors (Lipman et al., 2006; Lopata, 2003; Scheckner & Rollin, 2003; Zeman et al., 2002).

### **Types of Interventions**

The reviewed studies varied in the type of intervention the researchers used to reduce anger and aggressive behaviors. Five studies involved the use of cognitive behavioral training to reduce anger and aggressive behaviors with elementary-age students (Cole et al., 2013; Lipman et al., 2006; Nickerson & Coleman, 2006; Smith et al., 1994; Suveg et al., 2009). The cognitive behavioral training was focused on teaching students how to manage their anger and to increase their awareness of these behaviors during therapy sessions (Cole et al., 2013; Lipman et al., 2006; Nickerson & Coleman, 2006; Smith et al., 1994; Suveg et al., 2009). Cole and colleague (2013) reported significant results ( $p < .05$ ) that demonstrated the effectiveness of using cognitive behavioral therapy to increase students' awareness and understanding of anger.

A similar study by Smith and colleague (1994) showed positive results that supported the use of cognitive behavioral training in decreasing the percentage of angry and aggressive behaviors for elementary students with anger and aggressive behaviors. However, researchers in one study that implemented cognitive behavioral therapy with students with anger and aggressive behaviors, and included three family sessions, did not show a significant improvement on either parents' stress or students' anger management or disruptive behaviors (Lipman et al., 2006). Thus, cognitive behavioral therapy was effective in decreasing students' anger problems, aggression, and avoidance behaviors (Nickerson & Coleman 2006; Suveg et al., 2009).

Two empirical studies involved school counselors and a leadership group of interventions to increase students' social competencies and enhance their anger control (Burt et al., 2012, 2013). The results of these studies were significant ( $p < .05$ ) and supported the use of leadership groups in decreasing anger problems among students with anger and behavioral problems (Burt et al., 2012; Burt et al., 2013). A study by Zeman et al., (2002) supported the use of an anger and sadness regulation intervention with significant results ( $p < .05$ ) for decreasing internalizing behaviors (e.g., anxiety, depression) and externalizing behaviors (e.g., oppositional defiance). Other researchers used conflict resolution interventions to improve students' anger management and increase their conflict resolution skills (Akgun & Araz, 2014; Scheckner & Rolling, 2003). Akgun and Araz (2014) implemented a conflict training program involving use of indicated preferences and sharing books to increase students' conflict resolution and the results showed significant improvement in students' reactive aggression. Conversely, using Students Managing Anger Resolution Together (SMART) did not provide significant results when comparing SMART Talk and conflict resolution knowledge skills (Scheckner & Rollin, 2003).

Also, progressive muscle relaxation intervention was implemented with elementary students with emotional and behavioral disorders using two measurements: frequency of aggression and a child behaviors checklist (Lopata, 2003). The finding showed no significant results when the two measurements were combined. However, students showed improvement in decreasing aggressive behaviors during the week following treatment (Lopata, 2003). Results indicated that progressive muscle relaxation was effective only on a short-term basis for reducing aggressive behaviors (Lopata, 2003).

Generally, most of the reviewed empirical studies had a positive impact using anger management interventions for improving students' anger and behavior problems (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Cole et al., 2013; Lopata, 2003; Nickerson & Coleman, 2006; Smith et al., 1994; Suveg, et al., 2009; Zeman et al., 2002). According to the results of the studies included in this literature review, implementing anger management intervention with elementary-aged students may help to address many behavioral issues in schools and that early intervention was shown to be effective (Burt et al., 2012; Burt et al., 2013; Schkner & Rollin, 2003; Smith et al., 1994; Zeman et al., 2002).

### **Impact of Anger Management Intervention by Type and Duration**

The results of this review indicated that various types of anger management interventions had positive effects on students' anger and aggressive behaviors (Akgun & Araz, 2014; Burt et al., 2012, 2013; Cole et al., 2013; Nickerson & Coleman, 2006; Smith et al., 1994; Zeman et al., 2002). These empirical studies showed significant reductions ( $p < .05$ ) in students' anger and aggressive behaviors after undergoing conflict resolution training, anger management leadership groups, leadership implementation training, cognitive behavioral therapy, and/or anger and sadness regulation (Akgun & Araz, 2014; Burt et al., 2012, 2013; Cole et al., 2013; Nickerson & Coleman 2006; Smith et al., 1994; Zeman et al., 2002). The participants in the cited studies showed increased awareness of their anger and reduced aggressive behaviors (e.g., kicking). In one study, a long duration of maintenance and retraining proved to be the most effective factor in the success of anger management intervention (Akgun & Araz, 2014; Nickerson & Coleman, 2006).

Some of the reviewed studies did not provide significant results ( $p > .05$ ) in addressing elementary-aged students' anger and aggressive behaviors (Lipman et al., 2006; Lopata, 2003; Scheckner & Rollin, 2003; Suveg et al., 2009). The interventions included cognitive behavioral therapy and progressive muscle relaxation (Lipman et al., 2006; Lopata, 2003) respectively. These results did not support the effectiveness of their interventions in improving elementary students' anger and aggressive behaviors. Lopata (2003) indicated that the progressive muscle relaxation intervention was only effective for a short time.

Two other empirical studies (Scheckner & Rollin, 2003; & Suveg et al., 2009) did not provide significant results ( $p > .05$ ) in terms of inhibiting anger and coping with aggressive behavior. However, cognitive behavioral therapy provided significant results ( $p < .05$ ) in improving students' emotional awareness, worry, and sadness (Suveg et al., 2009). Also, the student managing anger resolution, together with SMART Talk (Scheckner & Rollin, 2003) showed significant results ( $p < .05$ ) in two dependent variables: increasing knowledge of anger and reducing aggressive behaviors.

To summary, seven studies (64%) of the reviewed studies had effective interventions that improved students' anger and aggressive behaviors (Akgun & Araz, 2014; Burt et al., 2012, 2013; Cole et al., 2013; Nickerson and Coleman, 2006; Smith et al., 1994; Zeman et al., 2002). Two studies, representing 18% of the effective interventions, showed improved anger awareness among students (Suveg et al., 2009; Zeman et al. 2002). Also, two studies showed the effectiveness of using anger management interventions to improve social competence, representing 18.18% of the total studies (Akgun & Araz, 2014; Burt et al., 2012).

Also, three reviewed studies had no significant results ( $p > .05$ ) in reducing anger and aggressive behaviors (Lipman et al., 2005; Lopata, 2003; Scheckner & Rollin, 2003). Suveg et al., (2009) found that significant results ( $p < .05$ ) in improving students' emotional awareness of sadness, but no significant results ( $p > .05$ ) to improve anger inhibition. Most of the reviewed studies provided significant results in improving students' anger management representing (64% of total revived studies). In all, anger management strategies had a positive impact on anger and aggressive behaviors, awareness of anger, social competence, and conflict resolution skills (see Appendix A).

### **Discussion**

Elementary aged students with anger and aggressive behaviors are in danger of falling behind in school without effective interventions to develop their ability for managing their anger and controlling their aggressive behaviors (Cole et al., 2013; Nickerson & Coleman, 2006; Scheckner & Rollin, 2003; Smith et al., 1994). Young children who display anger and aggressive behaviors are more likely to have higher levels of antisocial behaviors in future life (Loeber, as cited in Nickerson & Coleman, 2006), highlighting the need to implement anger and behavioral interventions over a longer period of time, as short-term intervention appear to limit interventions success over time (Scheckner & Rollin, 2003).

### **Effectiveness of Anger Management Interventions**

The findings of this literature review indicated that using anger interventions, such as conflict resolution training, cognitive behavioral therapy, anger and leadership groups, and anger and sadness regulation can lead to positive results to address children's anger and behavioral problems, but not to increased self-awareness of anger (Akgun & Araz, 2014; Burt et al., 2012, 2013; Cole et al., 2013; Nickerson & Coleman, 2006; Smith et al., 1994; Zeman et al., 2002). These seven studies provided significant results ( $p < .05$ ) for improving several dependent variables associated with elementary students' aggression and anger: improving children's social competences, anger management, emotional awareness, and decrease in aggressive behaviors.

Four studies did not provide significant results ( $p > .05$ ) in reducing anger and aggressive behaviors or normal expressions of anger, and anger inhibition (Lipman et al., 2006; Lopata, 2003; Scheckner & Rollin, 2003; Suveg, 2009). However, the studies with significant results that supported the use of anger management interventions included 63.64% of the total number of studies. One study, muscle relaxation intervention, was shown to be an effective method, but only for the short-term, and did not provide significant results in decreasing aggressive and anger behaviors among children with anger problems over time (Lopata, 2006).

The majority of reviewed studies implemented an intervention and maintenance phase over a short period of time. This is may be insufficient time for adequate rapport building between participants and a given intervention. Future researchers may need to consider the duration of time that is needed to implement the intervention, maintenance, and generalization phases because it will provide further evidence of the effectiveness of a given intervention over time and across setting. Also, the select small sample size of participates is one limitation that may restricted generalizability of a study's results. Future researchers may need to use random assignment and select large number of participants to increase the generalizability of findings.

In addition, two limitations were reported in the review studies: (1) some studies did not include a control group and (2), there were limited data on social vitality. Future research may need to include randomized treatment and control groups to evaluate the impact of an anger management intervention. Also, the lack of an alternative treatment for participants in the control group need to be considered in the future research.

### **Limitations of the Literature Review**

As with any study, several limitations will be discussed. First, using only four specific databases may have limited the number of possible studies included. In the future, the inclusion of additional databases (e.g., PsycINFO) should be accessed in order to find additional studies that assess the effectiveness of anger management interventions. Third, this review did not include doctoral dissertation or master's theses, which may have limited the number of empirical studies. Future researchers should include dissertation and theses to expand the inclusion of additional anger management studies.

A fourth limitation could be the population targeted; limiting this literature review to elementary aged students may have excluded studies that showed other possible outcomes of significance. Finally, cutting off the publication year at 1990 may have limited the number of studies included in this review. However, it was deemed appropriate to limit the search to 1990 as only the most current and widely used interventions for anger and aggressive behaviors were sought.

### **Implications for Research and Practice**

Intervention research can be difficult to undertake as it necessitates time and access. Therefore, in order to become more accurate in determining the effectiveness of anger management interventions, researchers may need to implement anger management interventions using randomized groups including a control group and a treatment group. Only four studies in this review implemented anger management intervention using treatment and control groups (Lipman et al., 2006; Lopata, 2003; Scheckner & Rollin, 2003; Zeman et al., 2002).

Selecting an equal gender sample size may be an important element for researchers to consider to delineate specific intervention effects related to genders. Other studies could examine gender differences. In this review, boys with anger problems out numbered girls. Future research may need to determine whether there are differential effects of anger management intervention with girls and their anger management skills, both short term and longitudinally.

This present review of the literature on anger and aggressive behavioral interventions suggests that future research may need to use a multiple baseline design involving four phases: baseline, interventions, maintenance, and generalization. This design could provide more evidence on the process and content effectiveness of anger management interventions. Also, it would allow researchers to assess individual differences of treatment on each child with anger and aggressive behaviors during different phases and provide specific data on generalization of intervention effect in different settings. Another recommendation from this study is to use long-term interventions versus short term to assist the maintenance of intervention effect over time, learning intervention strategies are important skill, but the fluence used of these skills might be needed to support continued use after the intervention is terminated.

In addition, future research may need to examine the nature of relationships between young children's anger and aggressive behaviors and their family environment. Determining the relationship between children and their family may provide insight into ways that parent/caregivers and child interactions contribute to anger issues and aggressive behaviors. This research suggests that the inclusion of family sessions could improve young children's anger and aggressive behaviors (Lipman et al., 2006).

Educators can use many strategies of anger management interventions to reduces their students' anger and behavioral problems. For example, teachers can use SMART Talk to help students to use of nonviolent strategies when they feel anger. Also, teachers may use integrating leaderships skills into anger management groups by allowing students with anger problems to work with their peers. These types of intervention may be effective methods to improve students social relationship with peer and reduce anger and behavioral problems. Educators may need to help students to understand anger, and cognitive behavioral therapy may be an intervention that help students improve their awareness and control over their anger.

## **Conclusion**

Many expressions of anger and aggressive behaviors are exhibited in schools, such as hitting and yelling (Burt et al., 2012; Burt et al., 2013; Scheckner & Rollin, 2003). The increasing number of children with anger and behavioral problems has become a serious problem in schools (Cole et al., 2013; Burt et al., 2012; Burt et al., 2013; Lopata, 2003). Anger and aggressive behaviors prevent young children from succeeding in academic classes. Thus, anger management interventions (Burt et al., 2012; Schekner & Rollin, 2003; Smith et al., 1994) are warranted. Though there are numerous anger management strategies to reduce anger and aggressive behaviors. The most effective strategies are (e.g., yoga, relaxation techniques and meditation).

Though this review focused on elementary-aged students, research indicates the need for anger problems to be addressed in the early life of children (Burt et al., 2012; Cole et al., 2013; Smith et al., 1994). When young children are taught appropriate behaviors (Bandura et al., 1963), using intervention strategies, such as behavior rehearsal, feedback, imitating appropriate models, they develop self-control and reduce their anger and aggressive behavior (Bandura et al., 1963; Camp et al., 1977; Lochman et al., 1981).

To summarize, 11 empirical studies that aimed to assess the effectiveness of anger management intervention to decrease anger and aggressive behavior among elementary-aged students (Akgun & Araz, 2014; Burt et al., 2012; Burt et al., 2013; Cole et al., 2013; Lipman et al., 2006; Lopata, 2003; Nickerson & Coleman, 2006; Scheckner & Rollin, 2003; Smith et al., 1994; Suveg et al., 2009; Zeman et al., 2002) were reviewed. Based on the results of this review, significant results ( $p < .05$ ) supported the use of anger management in improving elementary students' anger and aggressive behaviors (Akgun & Araz, 2014; Burt et al., 2013; Burt et al., 2012; Cole et al., 2013; Nickerson & Coleman, 2006; Smith et al., 1994; Zeman et al., 2002).

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Appendix A  
Table 1  
Findings of the Experimental Studies

Studies	Targeted variables	Intervention	<i>n</i>	<i>p</i> value
Akgun and Aráz (2014)	Enhance students' conflict resolution skills, social competence, and reactive and proactive aggression	Conflict resolution training	327 ( <i>M</i> = 52.91%, <i>F</i> = 47.9)	<i>P</i> < .05
Burt et al. (2012)	Improve students social and relational competencies, and reduce aggressive behavior	School counselors (SCs), anger management leadership groups	32 ( <i>M</i> = 62.5%, <i>F</i> = 37.5%)	<i>P</i> < .05
Burt et al. (2013)	Improve students' anger management	Integrating leaderships skills into anger management groups	32 ( <i>M</i> = 62.5%, <i>F</i> = 37.5%)	<i>P</i> < .05
Cole et al. (2013)	Understanding of anger, improvements in teacher-rated problem behaviors (e.g., peer problems, conduct problems)	Cognitive behavioral therapy	70 ( <i>M</i> = 77.14%, <i>F</i> = 22.86%)	<i>P</i> < .05
Lipman et al. (2006)	Develop normal expressions of anger and aggression	Cognitive Behavioral Therapy	123 ( <i>M</i> = 82.93%, <i>F</i> = 17.7%)	<i>P</i> > .05
Lopata (2003)	Reduce anger and behaviors	Progressive muscle relaxation	24 ( <i>M</i> = 91.67%, <i>F</i> = 8.33%)	<i>P</i> > .05
Nickerson and Coleman (2006)	Improve anger and behavioral outcomes	Anger-coping groups therapy, or cognitive behavioral therapy	5 ( <i>M</i> = 60%, <i>F</i> = 40%)	
Scheckner and Rollin (2003)	- Knowledge - Aggressive behaviors - Use of nonviolent strategies	Student managing anger resolution together (SMART) talk	44 ( <i>M</i> = 63.64%, <i>F</i> = 36.36%)	<i>P</i> > .05 <i>P</i> > .05 <i>P</i> < .05
Smith et al. (1994)	Reduce anger and aggressive behaviors	Cognitive behavioral training	3 ( <i>M</i> = 66.67%, <i>F</i> = 33.33%)	
Suveg et al. (2009)	Change in emotional awareness, worry, and sadness Anger inhibition and sadness coping	Cognitive behavioral therapy	37 ( <i>M</i> = 59.46%, <i>F</i> = 40.54%)	<i>P</i> < .05 <i>P</i> > .05
Zeman et al. (2002)	Improve students' self-reported regulation of anger and sadness regarding internalizing (e.g., depression) and externalizing (e.g., aggression) symptoms	Anger and sadness regulation	121 ( <i>M</i> = 53.30%, <i>F</i> = 46.70%)	<i>P</i> < .05

Note. M = male; F = female.