

## Empowering children with safety-skills: An evaluation of the Kidpower Everyday Safety-Skills Program



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### ABSTRACT

Changes in child safety knowledge concerning bullying, boundary-setting, and help-seeking were evaluated after participation in the Kidpower Everyday Safety Skills Program (ESSP), a workshop designed to increase children's knowledge of safe choices. The program consisted of an in-school workshop, weekly follow-up sessions, and homework assignments over 10 weeks and included skills-training, parental involvement, and opportunities to practice safety skills. Third-grade students ( $n = 128$ ) participated in pre- and post-tests of safety skills, and were compared to a comparison group ( $n = 110$ ) that did not participate in the program. Findings indicate that students who participated had increases in safety knowledge (maintained over 3 months) greater than the comparison group. Additional assessments indicate that the program was implemented with high fidelity and both teachers and students found the program successful. Children's understanding of the competency areas *boundary-setting*, *stranger safety*, *help-seeking*, and *maintaining calmness and confidence* improved.

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### 1. Introduction

Statistics on bullying, child victimization, and child abuse are staggering and reflect a troubling public health issue. The United States Department of Health and Human Services estimate that in over 2.1 million reported instances, over 678,000 child victims were maltreated in 2012, with 18.3% of these children experiencing physical abuse and 9.3% experiencing sexual abuse (U.S. Department of Health and Services (DHHS), 2013). Estimates of the rates of bullying in schools range from 1 in every 10 students (Nansel et al., 2001) to 1 in every 4 students (Lumsden, 2002) reported as victims of bullying. Furthermore, these rates vary by the intensity of victimization; whereas approximately one tenth of children experience more intense or frequent victimization, many more children experience less intense or less frequent victimization (Hanish & Guerra, 2000).

Even more troubling are the related long-term and short-term outcomes of child mistreatment. Victimization relates to increased risks for psychological, physical, behavioral, educational, and interpersonal problems (see Anda et al., 2006; Boden, Horwood, & Fergusson, 2007; Crooks, Scott, Wolfe, Chiodo, & Killip, 2007; Gilbert et al., 2009;

Lansford et al., 2002; Wegman & Stetler, 2009). Psychologically, bullied and abused children are more likely to experience both internalizing and externalizing disorders such as emotion regulation difficulties, anxiety, depression, aggression, anger (e.g., Hanish & Guerra, 2002; Hussey, Chang, & Kotch, 2006; Lansford et al., 2002), lower self-esteem (Sourander, Helstela, Helenius, & Piha, 2000), and increased risk for attempting suicide (Fergusson, Boden, & Horwood, 2008). Physically, children who experience or witness abuse or maltreatment are at greater risk for obesity (Anda et al., 2006), cardiovascular disease (Batten, Aslan, Maciejewski, & Mazure, 2004), neurological, musculoskeletal, and respiratory problems, and gastrointestinal and metabolic disorders (Wegman & Stetler, 2009). Recent research even finds that physical maltreatment, bullying, or witnessing domestic violence can negatively affect and age young children's DNA, leading to the erosion of telomeres (repetitive sequences at the ends of chromosomes that provide protection from deterioration; Shalev et al., 2012). Behaviorally, bullied and abused children are at greater risk for substance use and abuse (Anda et al., 2006; Dube et al., 2006), delinquency, and violent behaviors (Hussey et al., 2006; Lansford et al., 2007). Educationally, bullied and maltreated children exhibit higher levels of school avoidance (Kochenderfer & Ladd, 1996), inattention at school (Hanish & Guerra, 2002), and lower levels of academic achievement and attainment (Boden et al., 2007; Lansford et al., 2007). Interpersonally, bullied and abused children typically are rejected by their peers (Parkhurst & Asher, 1992), are unpopular in their schools (Hanish & Guerra, 2002),

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and have attachment difficulties (Cyr, Euser, Bakermans-Kranenburg, & Van Ijzendoorn, 2010).

Moreover, if children experience one form of victimization, they are much more likely to experience other forms of victimization as well (Finkelhor, 2007; Finkelhor, Ormrod, & Turner, 2007). The literature indicates that the greater the severity and frequency of the victimization, the greater the likelihood and severity of the cumulative negative outcomes (e.g., Crooks et al., 2007; Gilbert et al., 2009; Maas, Herrenkohl, & Sousa, 2008).

This body of previous research has indicated that the negative effects of abuse and victimization are vast, emerge in both the short-term and long-term, and are cumulative, even among young children (e.g., Gilbert et al., 2009; Shalev et al., 2012). These lessons underscore the necessity of early victimization risk-reduction, prevention, and intervention. In particular, the need for early risk-reduction, prevention, and intervention is warranted, given that children often lack self-protection skills and knowledge about dangerous and abusive (particularly sexually abusive) situations, and have difficulties distinguishing acceptable versus unacceptable interactions (Wurtele, 2009). However, if a child is able to utilize more effective strategies for dealing with abuse or bullying, the victimization is likely to be shorter in duration and have less of an emotional impact on the child (Kochenderfer-Ladd, 2004; Salmivalli, Karhunen, & Lagerspetz, 1996; Smith & Shu, 2000; Smith, Talamelli, Cowie, Naylor, & Chauhan, 2004). Personal safety skills or abuse-response skills may decrease the likelihood that children are victimized by increasing their ability to recognize and respond safely to dangerous situations (Deblinger & Runyon, 2000; Runyon, Basilio, Van Hasselt, & Hersen, 1998). School-based prevention education programs can promote disclosure of abuse and program exposure can reduce victims' self-blame and the associated mental health difficulties.

Victimization-prevention programs are particularly important for at-risk populations, such as Hispanic-Latino youth. The Hispanic-Latino population is one of the largest and fastest growing ethnic groups in the United States (U.S. Census Bureau, 2011). Furthermore, Hispanic-Latino youth are disproportionately represented in cases of child maltreatment (i.e., physical and sexual abuse, neglect, and psychological maltreatment), with rates that have increased dramatically over the past two decades (Dettlaff, Earner, & Phillips, 2009; DHHS, 2013). This is even more troublesome in states such as California where 54.2% of all substantiated child maltreatment cases 2012 involved Hispanic-Latino children (DHHS, 2013). Hispanic-Latino youth are also more likely than their African-American peers to be involved in bullying victimization (Spriggs, Iannotti, Nansel, & Haynie, 2007). In addition, Hispanic-Latino youth are at increased risk for victimization and inadequate safety-skill responses to victimization due to cultural differences in parent-child communication (Spriggs et al., 2007), especially regarding sexuality and disclosure of sexual abuse (Fontes & Plummer, 2010), child discipline (Fontes, 2002), and parenting style overall (Olayo Mendez, 2006).

The current study assesses the effectiveness of one such school-based risk-reduction and prevention program, the Kidpower Everyday Safety Skills Program (ESSP) (Van der Zande, 2012), focused on early safety skills training designed to empower children with lasting preventative, personal safety, and communication strategies. We targeted schools with large Hispanic-American populations, as this is a particularly salient at-risk group in California. Our study is guided by the research question: To what extent will the Kidpower ESSP enable children to acquire and demonstrate knowledge of personal actions and self-advocacy skills that will help them make safe choices in situations with other children, familiar adults, and strangers?

Researchers have found that the most effective techniques to combat victimization include tactics such as improving coping strategies, involving parents (Frisen & Holmqvist, 2010), strengthening self-assertiveness skills, reporting incidents to adults, having someone to talk to, and creating bully-free classroom environments (Crothers, Kolbert, & Barker, 2006). In response to hypothetical scenarios, youth report that they agree with the effectiveness of researchers' proposed

best techniques to combat victimization. However, in practice, youth tend to utilize less effective responses. For example, in cases of verified child sexual abuse, abused children frequently demonstrate a reluctance to report sexual abuse, and, when questioned, often avoid answering or deny the act (Leander, 2010; Leander, Christianson, & Granhag, 2008; Leander, Granhag, & Christianson, 2005). In the middle school context, incidents of bullying often go unreported when students lack self-protection and reporting skills, as defined above, and when they feel bullying goes unnoticed and unresolved by school staff. This leaves approximately one third of bullied students feeling unsafe at school (Batsche & Knoff, 1994; Hazler, Hoover, & Oliver, 1991; Slee, 1994) to the point that some youth actively avoid attending school (Slee, 2001). When middle school aged students do respond to bullying, they are most likely to respond by getting into an argument with the child who is bullying, while high school aged students are more likely to respond with physical retaliation and other aggression (Black, Weinles, & Washington, 2010; Waasdorp & Bradshaw, 2011). Counter-aggression and helplessness (e.g., starting to cry) were found to be the most frequently adopted bullying response strategies of sixth graders even though these strategies have been shown to exacerbate bullying (Salmivalli et al., 1996).

In light of this research, the goal of interventions should be to provide programs designed to help children and adults accurately identify and know how to respond to unsafe situations and child victimization more effectively and consistently (Waasdorp & Bradshaw, 2011). Each component of the Kidpower ESSP is designed to combat victimization by reducing risk factors and enhancing protective factors – mainly, increasing understanding of safe and unsafe situations and responses to unsafe situations. The program incorporates several factors found to be the best practices in child victimization prevention interventions. These best practices include: be appropriate for the target audience, take on a skills-based approach, include parents/caregivers, take on a multi-setting/community approach, take place over an extended period of time, and provide ample opportunities to practice new skills (see Hassall & Hanna, 2007; Kenny, Capris, Thakkar-Kolar, Ryan, & Runyon, 2008; Webster-Stratton & Taylor, 2001; Wolfe, Jaffe, & Crooks, 2006).

### 1.1. Best practices in prevention and intervention programs

#### 1.1.1. Appropriate for the target audience

Effective prevention programs must be contextually and developmentally appropriate, recognize the cognitive, behavioral, and emotional abilities and limitations of the target audience, and address risk factors as early as possible (Webster-Stratton & Taylor, 2001). The Kidpower ESSP focuses on positive youth development methods to prepare children to stay emotionally and physically safe in all the environments they are in, including at home, in school, in their communities, and online, and uses developmentally appropriate language and scenarios during instruction.

#### 1.1.2. Skills based approach

The most effective victimization-prevention programs teach children skills necessary to identify potentially abusive or otherwise dangerous situations (Kenny et al., 2008), intervene and provide help (Whitted & Dupper, 2005), assert themselves (Wurtele, 2009), build age appropriate social skills (Hassall & Hanna, 2007), seek help and communicate safety concerns with adults (Wurtele, 2009), and trust that such communication is welcomed by the adults (Vessey, Carlson, & David, 2003). Previous participants in a Kidpower ESSP reported that the skills training led them to feel increased control, power, and strength (important protective factors) and they viewed the skills training as a vital part of the program (Leisey, 2003).

#### 1.1.3. Include parents/caregivers

The responsibility to prevent child victimization should not fall only on the child. Especially for younger children, it is vital that parents learn

how best to protect their children and intervene if bullying or other abuse occurs (Bradshaw, Sawyer, & O'Brennan, 2007; Kenny et al., 2008; Wolfe et al., 2006). As mentioned before, children often lack the knowledge and skills necessary to deal with these situations effectively. Most often when children do report instances of victimization, they confide in a parent (Kutner & Fisher, 1998), yet many parents also feel ill-equipped in skills and language to prevent and intervene in child victimization (see Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009), particularly sexual abuse (Babatsikos, 2010). As a result, the best practices in prevention programming include parent involvement and training. To include parental participation, the Kidpower ESSP in schools provides parents with weekly assignments that the children complete together with their parents. In addition, parents are invited to attend and participate in the school ESSP workshop if they can.

#### 1.1.4. Multi-setting/community approach

Kidpower develops and strengthens a community norm of safety and respect by broadening the reach of a preventative program to multiple settings and involving a larger community in which all members support and protect the community's children (e.g., Atlas & Pepler, 1998; Plummer, 2001; Shonkoff & Phillips, 2000; Slee, 2006). A multi-setting approach is an important protective factor because risk factors and victimization occur across multiple settings and must be addressed accordingly (Monks et al., 2009). Further, when schools and parents partner with one another, they provide a coherent child safety message across settings, which makes it much easier for children to learn the corresponding safety and non-violence expectations (Prinz et al., 2009). The Kidpower ESSP is based in the school, is administered to entire classrooms, encourages parental participation, and includes work to be completed with parents at home. Furthermore, both the in-school workshop and follow-up assignments address safety skills necessary for averting bullying, harassment, molestation, assault, and abduction across settings (i.e., at home, in school, in their communities, and online).

#### 1.1.5. Take place over an extended period of time/repeated exposure

Not only is it reinforcing for children to learn these skills in multiple settings with peers, parents, and teachers, but it is also reinforcing for children to learn these skills over extended periods of time. Children who participate in multi-session, rather than single session, preventative programs are better able to sustain the safety skills they learned (Hassall & Hanna, 2007; Plummer, 2001). Moreover, children find multi-setting programs more interesting, and are therefore more likely to focus on the safety lessons and learn the skills presented (Finkelhor & Dziuba-Leatherman, 1995). The Kidpower ESSP includes a one-time initial workshop session with in-school follow-up sessions and homework once a week for ten additional weeks. Kidpower facilitates both parent and teacher involvement in the classroom and in the home, and provides the school and family systems with a common language and set of experiences with which they can continue to foster healthy relationship skills in the children over time, even after the conclusion of the Kidpower ESSP.

#### 1.1.6. Provide ample opportunities to practice new skills

The use of action-oriented teaching strategies (e.g., role-playing, live modeling, and behavioral rehearsal) is particularly effective in safety skills training with children (Hassall & Hanna, 2007). Further, increased opportunities for practice both at home and at school result in greater increases in safety skills knowledge than interventions with few opportunities for practice (Kenny et al., 2008; Webster-Stratton & Taylor, 2001). Perhaps what is most important, however, is that the most effective way for prevention programs to ensure that children will actually use their safety skills in real-life scenarios is by providing ample time to practice and rehearse behaviors (Davis & Gidycz, 2000; Finkelhor, Asdigian, & Dziuba-Leatherman, 1995).

Kidpower's ESSP presents role-plays that specifically address the needs and concerns of the child or group, breaking skills down into achievable steps, and coaching children to practice the skills successfully. This method gives children the opportunity to learn and rehearse safety skills multiple times in situations that are relevant to their lives. Moreover, the scenarios allow children to practice skills on how to handle potentially threatening situations with strangers, bullying, and people they know.

#### 1.2. The Kidpower research study

This study measured the critical components of the Kidpower ESSP that are hypothesized as necessary for averting bullying, harassment, molestation, assault, and abduction. As outlined above, the Kidpower ESSP employs the best practices in preventative child safety programming, which should result in effective safety skills training for participating children. Through the ESSP, children were expected to acquire and demonstrate knowledge of personal actions and self-advocacy skills that will help them make safe choices in situations with other children, familiar adults, and strangers. More specifically, through completing the ESSP, children learn to: take charge of their personal safety and the safety of others; show awareness, calmness, and confidence in potentially unsafe situations; know how to yell, leave, and get help if they are scared; know how to set clear, appropriate boundaries with people they know such as family, friends, and peers; know where to get help and how to persist in getting help when a safety problem arises; demonstrate an understanding of the safety rules regarding strangers; know their safety plan if they are lost or having an emergency; demonstrate an understanding of what a "stranger" is; and demonstrate an understanding of the safety rules regarding strangers.

Accordingly, in regard to our research question, "To what extent will the Kidpower ESSP enable children to acquire and demonstrate knowledge of personal actions and self-advocacy skills that will help them make safe choices in situations with other children, familiar adults, and strangers?" we predicted that:

**Hypothesis 1a.** Immediately upon the completion of the program, children who participated in the ESSP in their schools will demonstrate significant increases in skills and knowledge for making safe choices in situations with other children, familiar adults, and strangers, as compared to their pre-test levels of skills and knowledge (as assessed by the number of correct responses given on the Safety Skills Assessment).

**Hypothesis 1b.** Three months after participating in the ESSP workshop, upon the completion of all follow-up sessions, children will retain the skills and knowledge necessary to make safe choices in situations with other children, familiar adults, and strangers.

**Hypothesis 2.** Children who participated in the ESSP will demonstrate significantly greater skills and knowledge for making safe choices in situations with other children, familiar adults, and strangers, as compared to children in the comparison group who did not participate in the program.

## 2. Method

### 2.1. Participants

The current study included 238 third grade children from five schools (14 classrooms) in Santa Cruz County, California. Schools were purposefully selected from different communities that are highly representative of the cultural and economic make-up of the area, including a high percentage of children with Hispanic-American and lower socio-economic backgrounds. None of the classrooms had prior exposure to Kidpower. Within the selected schools, each third-grade class was invited to participate and all but one class did participate.

Careful attention was given to creating two groups with similar demographics that were then randomly assigned to be either the treatment (3 schools, 8 classes,  $n = 128$ ) or the comparison group (2 schools, 6 classes,  $n = 110$ ). The groups had approximately equal numbers of boys and girls (see Table 1 for demographic information). All classroom teachers ( $n = 14$ ) in this study had their full teaching credentials. Specifically, none of the teachers were in training, or only had provisional licenses. All teachers provided consent and all children received parental consent and participated at each applicable time of testing (three surveys for the treatment group and two surveys for the comparison group). All parents received an introductory letter about the research study and the training their children would be receiving with an option to opt out if they wished. None of the parents wanted to opt out. An a priori power analyses revealed that a total sample size above 216 students would be sufficient to detect small effect sizes (partial  $\eta^2 = .1$ ), and we met this criteria with our sample (Faul, Erdfelder, Lang, & Buchner, 2007).

## 2.2. Procedure

This study utilized a quasi-experimental design in which the treatment group completed a pre-training survey (pre-test, Time 1), an immediate post-workshop survey (post-test, Time 2), and a 3-month post-program survey (post-test, Time 3). The comparison group completed a pre-survey (pre-test, Time 1) and a 3-month post-survey (post-test, Time 3). The comparison group did not complete a survey at Time 2.

The pre-test surveys were distributed to the treatment and comparison groups. To ensure fidelity in the administration of the instruments, the survey administrators were trained by the researcher and followed a rehearsed script. Students read along on their own copy of the survey while it was also verbally administered.

Children in the treatment group participated in a 2-hour ESSP workshop in their classrooms facilitated by a certified Kidpower trainer. Each workshop was conducted in one session in the morning. For each activity, the presenter introduced the purpose in simple age-appropriate language using guiding questions to encourage discussion. The presenter then demonstrated the skill with the classroom teacher and/or a student, and had the class practice the skill either as a whole group or in three smaller groups. Each child also individually practiced stopping unwanted touches and yelling and running to safety. Immediately following the workshop, a trained survey administrator verbally administered the post-test survey using the same procedure as the pre-test. As part of the Kidpower program, children in the treatment group also received ten 15-minute follow-up Kidpower skills booster practice lessons over the 3-month period following the workshop. Each teacher participating in the study committed to conducting a booster session each week for

10 weeks, to assigning the 10 homework lessons, and then to following up to collect the homework from as many students as possible, using their normal means of collecting homework. The booster sessions were designed to give children additional time to practice the primary skills learned in the workshop. Each teacher was provided with a standardized lesson plan to ensure consistency of delivery across classrooms. Kidpower also provided teachers with directions for the booster sessions and ten parent-child homework assignments in English and Spanish using cartoon-illustrated pages from the *Kidpower Safety Comics for Adults With Younger Children* (a comic book created by the organization as an additional medium for safety skills education) for the parents to review and discuss key skills with their children. To ensure that all parts of each homework assignment were sent home with each student, Kidpower made packets that were delivered weekly to each teacher with the assignments for each student in her or his classroom. Teachers used their typical means of reminding parents and motivating students to complete the assignments, so that most of the assignments were completed.

During this time when the treatment group received the training workshop and the booster sessions, the comparison group did not participate in any safety skill related workshop or activity. Both treatment and comparison groups received a post-test survey approximately three months after the pre-test. Upon completion of the study, Kidpower provided equivalent ESSP training to all children in the comparison group, along with their classroom teachers.

## 2.3. Measures

### 2.3.1. The Safety Skills Assessment

The development of this instrument was informed by previous validated measures (e.g., the “What if” Situations Test (WIST), Wurtele, Kast, & Melzer, 1992; the California Healthy Kids Survey, WestEd, 2009) with input from experts in the field of youth development and prevention programs, program developers, and classroom teachers. The questions were adapted to include age-appropriate language for the third graders, and were presented in a multiple-choice or yes/no question format that would be familiar to these children. Additionally, the questions were written so that they would be understandable to children who had not taken part in the Kidpower training.

To ensure that children understood the survey, we pilot-tested the questions with children in Kidpower parent-child workshops and with third-grade students ( $n = 40$ ) and teachers at a local elementary school that was not part of the study. The outcomes of the pilot tests indicated that children understood most items well and resulted in only minimal changes to the survey. No items were added to or dropped from the instrument, and only a few minor adjustments to language were needed to make the English-only instrument more comprehensible to children for whom English is not their first language. The pilot testing also resulted in some minor changes to the instrument delivery procedure, such as defining key terms and adjusting the pacing of the survey administration.

The final instrument was a multi-section self-report questionnaire addressing safety skills (15 items) as well as basic stranger knowledge (3 items). In addition, four items asked children to estimate the frequency of victimization at their schools, two items assessed whether and how often the participants engaged in any safety precautions with an adult, and two items assessed children's perception of the effectiveness of the Kidpower program. The following section explains the details of the items in each section, the time points when the items were presented (e.g., in pre- or post-test), and the group(s) that received the items (e.g., treatment and/or comparison).

**2.3.1.1. Safety skills knowledge.** The primary section of the instrument included 15 items that addressed various safety skills. These items assessed children's knowledge about: taking charge of their personal safety and the safety of others; showing awareness, calmness, and

**Table 1**  
Sex and ethnicity breakdown of sample by comparison versus treatment group.

	Girls	Boys
<i>Comparison group</i>		
Hispanic-American	25 (23%)	27 (25%)
Anglo-American	19 (17%)	25 (23%)
Asian-American/Pacific Islander	2 (2%)	4 (4%)
Multi-ethnic	5 (4%)	0 (0%)
Unknown	2 (2%)	1 (1%)
Total (100%)	53 (48%)	57 (52%)
<i>Treatment group</i>		
Hispanic-American	30 (23%)	41 (32%)
Anglo-American	22 (17%)	26 (20%)
Asian-American/Pacific Islander	4 (3%)	2 (2%)
Multi-ethnic	2 (2%)	0 (0%)
Unknown	0 (0%)	1 (1%)
Total (100%)	58 (45%)	70 (55%)

Note. The groups did not differ significantly by sex or ethnicity ( $p$ -values  $> .10$ ).

**Table 2**  
Computed  $\chi^2$  values for T1 to T3 pre–post-comparisons.

Survey item	Treatment group			Comparison group		
	n	$\chi^2$	p	n	$\chi^2$	p
<b>Boundary Setting</b>						
If someone you like a lot wants to give you a hug, but you do not feel like a hug, what would you do?	128	27.77	.000	110	2.08	.20
If someone you like a lot feels upset or sad because you do not want to be hugged or kissed, what would you do?	128	22.23	.000	110	3.60	.08
<b>Stranger Safety</b>						
Suppose your grownup is talking on the phone and a woman in a uniform with a delivery truck wants to deliver a package to your house. What would you do?	127	24.00	.000	110	0.03	1.00
Suppose you are on your own and someone you do not know picks up your bike and asks you to come and get it. What would you do?	126	28.88	.000	109	3.80	.07
*Is a stranger is anyone you do not know, including a kid, a woman, or a man?	127	20.45	.000	109	12.60	.001
*Is it possible for a stranger to know your name?	127	42.64	.000	108	6.82	.01
*Is the safety rule that kids should never, ever go with a stranger anywhere?	128	2.88	.12	110	1.67	.30
<b>Help-Seeking</b>						
If a bunch of kids at school were teasing another kid in a very hurtful way, what would you do?	127	0.09	1.00	110	0.29	.79
If a bigger kid tries to grab you, what would you do?	125	3.33	.10	108	0.62	.56
If a person you like a lot asked you to keep a problem a secret, what would you do?	127	56.53	.000	110	0.93	.44
If you have a safety problem and your grownups are busy, what would you do?	128	77.19	.000	110	4.50	.05
If a person does something that makes you feel scared, what would you do?	127	7.69	.01	110	0.03	1.00
If a friend or family member tries to get you to do something you think is wrong, what would you do?	126	0.12	.86	110	0.04	1.00
<b>Maintaining Calm and Confidence while Being Aware</b>						
If another kid called you an unkind name, what would you do?	128	0.05	1.00	107	5.40	.04
If a person near you is acting in a way that makes you feel very uncomfortable, what would you do?	127	20.51	.000	110	11.31	.001

Note. The Bonferroni correction was applied to control for the familywise error rate:  $df = 1$ . A computed  $\chi^2$  value equal to or greater than 9.55 or greater =  $p < .002$ . \* = "Basic stranger knowledge" items – which assessed stranger knowledge rather than skills.

confidence in potentially unsafe situations; knowing how to yell, leave, and get help if they are scared; knowing how to set clear, appropriate boundaries with people they know such as family, friends, and peers; knowing where to get help and how to persist in getting help when a safety problem arises; demonstrating an understanding of the safety rules regarding strangers; and knowing their safety plan if they are lost or having an emergency (see Table 2 for items). Multiple choices were provided for the participants to select from. The choices always included one safety-conscious response strategy (correct answer), two unsafe response strategies, and a fourth option where participants could report they did not know what they would do (incorrect answers). Each participant received a summed score of the total number of correct answers. These items were administered at all three time points for the treatment group and at both time points for the comparison group. A Categorical Principal Components Analysis (CATPCA) was run to test the structure and reliability of the new measure. The results revealed one dimension to the measure with acceptable reliability (Cronbach's alpha = .75).

**2.3.1.2. Basic stranger knowledge.** Three questions were included to assess participants' general knowledge of strangers and stranger safety. Specifically, these items assessed whether children could demonstrate an understanding of what a "stranger" is and the safety rules regarding strangers. An example item is: "Is a stranger anyone you do not know, including a kid, a woman, or a man?" (see Table 2 for a full list of items). The response options for these three items were yes, no, and *I am not sure*. These items were administered at all three time points for the treatment group and at both time periods for the comparison group.

**2.3.1.3. Frequency estimations of victimization.** Four items were included to help determine the general level of participants' exposure to unsafe situations. These items measured self-reported frequency estimations

of victimization to determine the participants' perceptions of the regularity of bullying, teasing, purposeful exclusion (with intent to harm the excluded individual), and physical aggression in their schools (e.g., "How often have you seen kids at your school tease other kids in a hurtful way?," "How often have you seen kids at your school touch other kids in hurtful ways, like pinching, grabbing, tripping, kicking, or hitting?"). A 4-point, Likert-type response scale was used for all items in this section (A – *never* to D – *almost every day*). These items were included in the pre-test assessment for both groups. However, given the expectation that the levels of victimization would change only in the treatment schools but not in the comparison schools, these items were included in the 3-month post-test assessment for the treatment group only. The items yielded marginal reliability as a scale (Cronbach's alpha = .59), and thus analyses were run by item.

**2.3.1.4. Engagement in safety precautions.** Two items were included to assess whether the participants engaged in any safety preparations with an adult. The first question, "Have you practiced with a grownup how to yell loud words like NO and STOP if you ever need help?" was presented with a 4-point Likert-type response scale (A – *never* to D – *lots of times*). The second question, "Have you and your grownups talked about how to get help if you need it at the places you go a lot?" was presented with the response options, yes, no, and *I am not sure*. These items were included in the pre-test assessment for both groups. However, given that engagement levels were expected to increase only in the treatment schools but not in the comparison schools, these items were included in the 3-month post-test assessment for the treatment group only.

**2.3.1.5. Perceived effectiveness of Kidpower ESSP.** Two additional items were included for the treatment group only at the 3-month post-test assessment to determine whether participants felt they learned important

safety issues from the workshop. The first question, “Did you learn anything useful from the Kidpower program about how to keep yourself safe?” was a multiple-choice: A - *I did not learn anything useful*, B - *I learned a couple of new things*, C - *I learned a lot of new things*, and D - *I am not sure*. The final item was an open-ended question: “What are three ideas from Kidpower that you think will help keep you safe?”

Both to complement the student perspective, and to assess teachers' perceptions of the extent to which most of their children gained mastery (i.e. show strong knowledge, skill, and/or abilities) in the skills taught in the Kidpower workshop and reinforcement activities, the teachers in the treatment classrooms answered three items: 1. “I feel I have adequate mastery of the basic information, skills, and language to teach and discuss personal safety skills with my students and/or children,” 2. “I believe most of my students are more confident in their abilities to keep themselves safe,” and 3. “I believe most of my students are more capable of keeping themselves safe.” The three items were rated on a 5-point Likert-type scale ranging from 1 – not at all to 5 – a very large extent. In addition, the teachers provided open-ended responses to the question, “What are the primary concepts and skills your students retained from the Kidpower program?”

**2.3.1.6. Fidelity of administration assessment.** To assess the fidelity of administration, the teachers in the treatment classrooms answered *yes* or *no* to a series of 18 statements concerning the extent to which there was fidelity in the trainer's delivery of the workshops. Additionally, any modifications made to the survey administration, workshop, classroom follow-up booster sessions, and parent/student homework protocols and the reasons they were made were reported and described.

**2.3.1.7. Plan of analysis.** For the analyses, we first provide descriptive background results on the fidelity of the Kidpower ESSP and assessment administration as well as participants' frequency estimations of victimization in their schools, engagement in safety precautions, and basic stranger knowledge at Time 1. First, to assess group comparability, a series of preliminary Analyses of Variance (ANOVA) showed that there were no significant interactions involving school, socioeconomic status, classroom, sex, or ethnicity (all  $ps > .07$ ) so the data were collapsed across these groups in all subsequent analyses. Chi square analyses were run to determine if any significant differences in estimations of frequency of victimization, engagement in safety precautions, or basic stranger knowledge existed between the comparison and treatment groups at baseline. Then, to test **Hypotheses 1a and 1b**, a one-way repeated measures ANOVA was performed to examine the changes in children's total assessment scores over the three times of testing; the within-subjects factor was time, and the three levels were Time 1 (pre-test), Time 2 (immediate post-test; post-workshop), and Time 3 (three-month post-test; post-complete program). To test our hypothesis that the children who participated in the Kidpower ESSP would increase their knowledge about handling everyday safety issues more so than the children in the comparison group, we analyzed children's overall assessment scores using a  $2 \times 2$  mixed model ANOVA, with group (comparison or treatment) as a between-subjects factor and time (Time 1 or Time 3) as a within-subjects factor. Huynh-Feldt corrections were used when assumptions of sphericity were violated. Post-hoc analyses were conducted using paired samples *t* tests. Bonferroni corrections were made to control for familywise error rate for multiple comparison analyses.

To provide a more comprehensive understanding of the ways in which the Kidpower ESSP improved, or failed to improve, specific aspects of safety skills knowledge, we ran additional follow-up analyses to examine the effects of participation for each item. A post-hoc content analysis of participants' open-ended responses regarding the skills they felt they learned from the program (described below) revealed four competency scales as follows: stranger safety, boundary-setting, help-seeking, and maintaining calm and confidence while being aware (see **Table 2** for items by competency area). Unfortunately, due to low

alpha levels on the four scales, Chi square values for McNemar's Test of Correlated Proportions had to be calculated by item to assess changes from Time 1 to Time 3, and the findings then described within the four competency areas rather than analyzing the data by competency scales. Bonferroni corrections were used to control for familywise error rate for multiple comparison analyses. Finally, to assess the participants' subjective impressions about their perceived effectiveness of the Kidpower ESSP, we utilized the NVivo 9 software package to conduct a constant comparison analysis (Silverman, 2000; Strauss & Corbin, 1998) of their open-ended responses to the question: “What are three ideas from Kidpower that you think will help keep you safe?”

### 3. Results

We first provide descriptive background results on the fidelity of the Kidpower ESSP and assessment administration as well as participants' frequency estimations of victimization in their schools, engagement in safety precautions, and basic stranger knowledge at Time 1. Second, we present the results of analyses conducted to assess the effectiveness of the Kidpower ESSP in terms of any changes in the overall correct responses on the assessment between the initial (Time 1) and subsequent (Time 2 and Time 3) survey administrations (**Hypotheses 1a and 1b**). Third, we present the results of analyses examining if there was a significant difference between the treatment and comparison group scores, at Time 1 (ensuring groups are equal), and Time 3 (assessing program effectiveness; **Hypothesis 2**). These analyses include objective measures of group differences in overall correct responses on the assessment, proportion of participants who improved their overall correct responses from Time 1 to Time 3, and individual item correct responses, as well as subjective reports on the effectiveness of the program from participating teachers and students.

#### 3.1. Fidelity of the Kidpower ESSP and administration assessment

Favorable responses to the teacher-reported fidelity of administration assessment were nearly unanimous, with only one teacher responding “no” to any of the 18 statements on the assessment. Specifically, this teacher reported that the students were not engaged, and the trainer was unable to both actively interest the students and to integrate student comments into the workshop. She attributed this shortcoming to a lack of time during the workshop. Minor modifications in the workshop administration occurred in three instances: 1) providing an extra break for the students in one class, 2) spending extra time with a student who had previously been bullied to relate his experiences to the importance of telling an adult in instances of bullying, and 3) introducing a safety rule as a question asked of instead of as a statement told to the class. Only minor modifications were made in the administration of the pre- and post-tests. These included defining the words, “tease,” “hurtful,” and “unkind.” Thus the classroom-administered portion of the ESSP had high fidelity. However, there was less consistency in regard to the parent/student homework. A majority of the teachers, 75%, reported at least one issue with students completing and turning in every homework assignment (e.g., uncertainty about parent participation, missed assignments).

#### 3.2. Pre-test descriptive analyses

We administered a pre-test (Time 1) to all participants. This provided information both on the baseline levels of participants' safety skills knowledge (the primary focus of the study), as well as background information on participants' frequency estimations of victimization in their schools, engagement in safety precautions, such as practicing boundary-setting and help-seeking behaviors (e.g., interrupting a busy adult, telling someone “no” even if you like that person, yelling “no” or “stop”), and basic stranger knowledge. Descriptive analyses of the pre-

test are discussed in the following sections, and indicate that students initially displayed relatively low levels of knowledge about these areas.

### 3.2.1. Frequency estimations of victimization

At the pre-test, all children responded to four questions related to estimations of victimization in their schools. The vast majority of children reported witnessing name-calling (74%), teasing (75%), purposeful exclusion of others (75%), and physical harm (79%) at least a few times at the hands of their peers (see Table 3). The percentage of children who reported witnessing these acts at least once or twice a week ranged from 23% (name-calling) to 30% (physical harm). Witnessing physical harm was reported more frequently than the other three types of victimization, though differences were not statistically significant. Based on Chi square analyses, there were no significant differences in frequency estimations of each type of victimization between the treatment and comparison groups (all  $ps > .19$ ).

### 3.2.2. Engagement in safety precautions

Children responded to three questions related to their engagement in any safety precautions with an adult. The results highlighted the difference between discussing safety precautions or strategies for dealing with unsafe situations and actually practicing those strategies. Although 69% of participants talked with “their grownups” about how to get help if they need it in places they go a lot (17% were unsure; 14% had not talked to “their grownups” about getting help), 44% had never practiced the strategy of yelling “NO” or “STOP” with “their grownups.” Only 19% of the children had practiced *lots of times*, 23% had practiced *a few times*, and 15% had practiced *only once*. Based on Chi square analyses, there were no significant differences in participants’ engagement in any safety preparations with an adult between the treatment and comparison groups (all  $ps > .21$ ) at the pre-test assessment.

### 3.2.3. Basic stranger knowledge

The findings regarding participants’ stranger knowledge were mixed. Chi square analyses indicated that there were no significant differences between the treatment and comparison groups on stranger safety knowledge (all  $ps > .08$ ). Overall, the majority of participants correctly identified a stranger as “anyone you do not know, including a kid, a woman, or a man,” and agreed that “kids should never, ever go with a stranger anywhere” (57% and 74%, respectively). While it is promising that the majority of the children surveyed correctly answered these stranger safety questions, an arguably large percentage of the participants provided incorrect answers or replied that they simply were not sure about the answer. Additionally, only 35% of the children surveyed replied that it is possible for a stranger to know their name.

## 3.3. Pre-test/post-test findings on safety skills and basic stranger knowledge

### 3.3.1. Hypotheses 1a and 1b

Hypotheses 1a and 1b state that immediately upon the completion of the workshop (Time 2), children in the treatment group would demonstrate significant increases in their overall scores (total correct answers) on the Safety Skills Assessment as compared to their pre-test levels (1a), and that three months later (Time 3), after participating in the 10-week follow-up portion of the ESSP, the children would retain those increases, or perhaps show further increases in knowledge (1b). Mauchly’s test indicated that the assumption of sphericity had been violated ( $\chi^2 = 7.38, p = .03$ ), therefore the degrees of freedom were corrected using Huynh–Feldt estimates of sphericity (epsilon = 0.96). The results showed that children’s scores across time differed significantly,  $F(2, 254) = 170.34, p < .001, \eta^2 = .57$ . Paired-samples  $t$  tests with Bonferroni corrections indicated that children’s scores at Time 2 ( $M = 11.20$ ) and Time 3 ( $M = 10.84$ ) were both significantly higher than those at Time 1 ( $M = 7.31$ ),  $t(127) = 16.91$  and  $13.72, ps < .001, ds = 1.50$  and  $1.22$ , respectively. Scores at Time 2 and Time 3 did not differ significantly from one another,  $t(127) = 1.76, p = .081, d = 0.15$ .

Thus, the training workshop contributed to an immediate increase in children’s safety knowledge (supporting Hypothesis 1a), and with the continued booster sessions, the effect was present three months after the in-school workshop upon completion of the booster sessions (supporting Hypothesis 1b).

### 3.3.2. Hypothesis 2

In a test of the pre-post score differences between treatment and comparison groups, a main effect for time was found,  $F(1, 236) = 166.39, p < .001, \eta^2 = .36$ , along with a main effect for group,  $F(1, 236) = 12.88, p < .001, \eta^2 = .05$ ; these effects were qualified by a significant Time  $\times$  Group interaction,  $F(1, 236) = 58.53, p < .001, \eta^2 = .13$ . Paired-samples  $t$  tests with Bonferroni corrections indicated that the groups did not differ at Time 1, but while children in both treatment group and comparison group improved their scores significantly from Time 1 to Time 3 (treatment group changed from  $M = 7.31$  to  $10.84, t(127) = 13.72, p < .001, d = 1.22$ ; comparison group changed from  $M = 7.55$  to  $8.45, t(109) = 4.13, p < .001, d = 0.40$ ), children in the treatment group improved significantly more than did those in the comparison group (see Fig. 1).

A further analysis of individual performances revealed that the proportions of children who improved over time differed significantly between the comparison and the treatment groups. Whereas 62 out of the 110 children (56%) in the comparison group improved their scores over time, 111 out of the 128 children (87%) in the treatment group improved from Time 1 to Time 3,  $\chi^2 = 27.46, p < .001, \phi_c = .34$ .

There were seven items on which treatment group students showed significant improvement from pre-test to post-test, and on which the comparison group had no significant change. Those items were in the *boundary-setting, stranger safety, and help-seeking* competency areas. Although students in the comparison group significantly improved on one item of *maintaining calmness and confidence* and the treatment group did not improve, this difference may have been due to a ceiling effect, as the treatment group already did well at Time 1, before the intervention. Both treatment and comparison groups significantly increased their safe responses on the second item in the *maintaining calmness and confidence* competency area.

In Table 2, computed  $\chi^2$  values for McNemar’s Test of Correlated Proportions (with  $df = 1$ ) reflect the statistical significance of the pre-post-change(s) on the proportion of children who selected the correct versus one of the incorrect answers (including *I don’t know*) on the survey items indicated. There were seven items that were statistically significant for the treatment group while being statistically insignificant for the comparison group (these items are shaded in Table 2). These items reflected skills and knowledge regarding three of the four competency areas: stranger safety, boundary setting, and help-seeking. These results showed that after participating in the Kidpower ESSP, these children were better prepared to identify a stranger as well as dangerous situations, and they were more likely to know how to set safe boundaries and get and persist in getting help from a grown up should a potentially dangerous situation arise.

For the remaining items, three other patterns of between-group differences emerged. First, children in the treatment group showed

**Table 3**  
Percentage of responses for frequency estimations of victimization by victimization type.

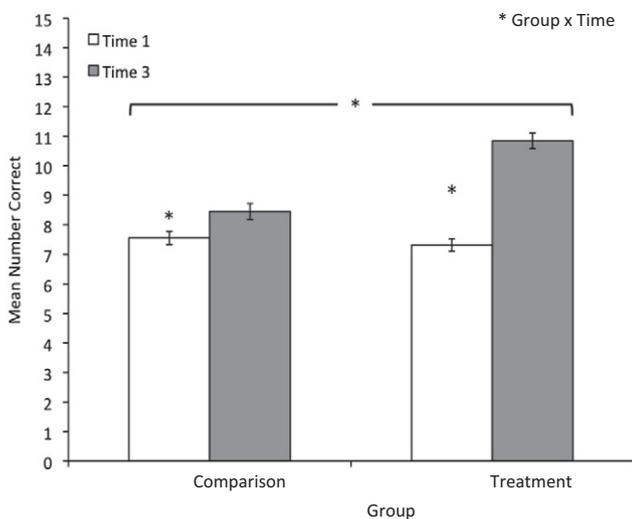
Frequency estimation	Type of victimization			
	Name-calling	Teasing	Excluding others	Physical harm
Never	26.05	24.37	25.21	21.01
Just a few times	50.84	45.80	47.90	48.74
One of two times a week	7.56	17.65	14.71	13.03
Almost every day	15.13	11.76	12.18	17.22
<i>M</i> ( <i>SD</i> )	2.12 (.97)	2.17 (.93)	2.14 (.93)	2.26 (.98)

Note.  $N = 238$ .

significant increases in their correct responses on three additional items, however, children in the comparison group also showed significant increases in their correct responses. These items focused on stranger safety (e.g., “Is it possible for a stranger to know your name?”) and maintaining calm and confidence (e.g., “If a person near you is acting in a way that makes you feel very uncomfortable, what would you do?”).

Second, four additional items yielded no significant increases in correct responses from Time 1 to Time 3 by children in either group. Two of these four items garnered no significant increase in correct responses from either group across all three time points. Correct responses to the help-seeking item, “If a friend or family member tries to get you to do something you think is wrong, what would you do?,” remained at a moderate level for both groups (Time 1: 72% & 67%; Time 3: 73% & 66%, treatment and comparison groups, respectively). At Time 1, a high percentage of children in both groups correctly answered the next help-seeking item, “If a bunch of kids at school were teasing another kid in a very hurtful way, what would you do?” (Time 1: 91% & 88%; Time 3: 91% & 86%, treatment and comparison groups, respectively), representing a potential ceiling effect. It is important to note, however, that for the remaining two of these items the treatment group did provide significantly more correct responses in the Time 2 assessment immediately following the Kidpower workshop (i.e., “If a bigger kid tries to grab you, what would you do?” and “Is the safety rule that kids should, never ever go with a stranger anywhere?” Time 1 to Time 2 change:  $\chi^2 = 18.24$ ;  $\chi^2 = 21.60$ , respectively, both  $ps < .01$ ), indicating the immediate effectiveness of the workshop, but also the necessity to focus on the sustainability of such effects in the future.

Third, the final item, “If another kid called you an unkind name, what would you do?” yielded a significant increase in correct responses from the comparison group, but not the treatment group. However, further analysis of this item revealed that at Time 1 the number of correct responses given by the treatment group was quite high (85%), whereas the comparison group provided many fewer correct responses to this item (76%). The significant increase in the comparison group children's correct responses simply served to close the gap between the two groups (both 86% at Time 3). More specifically, they increased to the same high level of correct responses that were provided by the children in the treatment group at both Time 1 and Time 3.



Note. Asterisks represent main effects for Group and Time and an interaction effect of Group  $\times$  Time (all  $ps < .001$ ). Error bars represent standard errors of means.

Fig. 1. Mean number correct on the Safety Skills Assessment by group and time.

### 3.3.3. Perceived effectiveness of the Kidpower ESSP

Our findings demonstrated the Kidpower program's effectiveness by objective measures (i.e., the overall and item specific significant increases in the treatment group's safety skills). However, we also wanted to assess the participants' subjective impressions about how much they felt they learned from the workshop. It is encouraging that even at the three-month post-test assessment, over 66% of participating children reported that they learned some or a lot of new things regarding safety skills from the Kidpower workshop. The analysis revealed a set of thematic competency areas that students reported learning about most frequently: boundary-setting, help-seeking, being aware while maintaining calmness and confidence, and stranger safety (see Table 2). First, boundary-setting involved issues such as setting clear, appropriate personal boundaries by using their voices and leaving situations safely. The children reported learning important lessons such as, “You can yell stop if someone tried to do something to you,” “Yell no, I need help, stop!” and “If someone wants to grab you, you can put your arms up and step back.” Second, help-seeking reflected the issues of getting help from adults when children have a problem as well as understanding how to persist to get that help. The participants explained the following help-seeking lessons: “[You can] interrupt your parents when there's an emergency,” “Keep asking until you get help,” and “Get help if you're being bullied.” Third, being aware while maintaining calmness and confidence reflected the issues of showing awareness, calmness, and confidence. Examples of lessons in this theme include, “Be calm and confident and walk with your head up,” “Stand up straight, tall, and confident,” and “Walk with your head up and be aware.” Fourth and finally, stranger safety involved the issues of having a better understanding of who a stranger is and understanding safety rules regarding strangers (e.g., “Never go anywhere with a stranger” and “Don't open the door to strangers”). These open-ended responses further validated the effectiveness of the Kidpower ESSP, as the knowledge and skills revealed by the responses corresponded to the multiple-choice assessment items on which Kidpower participants improved in the post-test(s).

Moreover, the teacher reports provided further evidence for the effectiveness of the Kidpower program. Six of the eight teachers from the treatment classrooms reported that after completing the Kidpower program most of their students were more capable of keeping themselves safe and were more confident in their abilities to keep themselves safe to a large or very large extent. The remaining two teachers agreed with these statements to some extent. All eight teachers reported that they felt they had adequate mastery of the basic information, skills, and language to teach and discuss personal safety skills with their students and/or children to a large or very large extent. When asked to identify the primary concepts and skills their students retained from Kidpower, the teachers replied positively in terms of maintaining calmness and confidence (“The most notable difference I've seen has been the strength with which my kids verbally defend themselves from teasing and tense situations”), help-seeking (“I think my students really learned about getting help when they need it and about checking first with their adults”), and boundary-setting (“They are more aware of their personal space”).

## 4. Discussion

These results supported our hypothesis that children's safety knowledge would be enhanced significantly by the Kidpower ESSP delivered in a classroom setting with booster sessions and at-home assignments. This study extends the evidence that a multi-setting, but school-based safety skills program can enhance the protective factors associated with risk reduction, prevention, and cessation of most bullying, molestation, violence, and abduction. Overall, students who participated in the Kidpower workshop increased their safety test scores after the intervention workshop, and these gains sustained after three months of follow-up support. Moreover, three months after the primary

workshop, students who participated in the Kidpower workshop and booster sessions had higher safety test scores than students who did not participate, even though treatment and comparison group scores were not significantly different before the intervention. Our analyses were further validated by teachers' reports of students' safety skills development in the classrooms that took part in the Kidpower ESSP.

We assessed the pre-test to post-test differences in overall safety test scores as well as changes at the item level across the treatment and comparison groups. A content analysis of participants' open-ended responses (e.g., "What are three ideas from Kidpower that you think will help keep you safe?") confirmed four competency areas within which we interpreted the differences across the two groups for each item from the safety skills assessment. Overall, these findings provide strong evidence that the Kidpower ESSP was successful in its mission to increase student knowledge and strategies regarding safe responses to potentially dangerous situations.

Below we provide detailed interpretations of the importance of our finding that participation improved knowledge of the competency areas (i.e., boundary setting, stranger safety, help seeking, maintaining calm and competence) along with a discussion of strengths and limitations of this study, and avenues for future work.

#### 4.1. Boundary-setting

Items within the boundary-setting competency area assessed whether students felt comfortable telling other people not to touch them physically. Boundary-setting is an important piece in children's ability to have control over their bodies, and to speak up if they feel uncomfortable, particularly in cases of physical or sexual abuse. This study assessed boundary-setting with two scenarios: one where the child simply did not feel like getting a hug from someone and the other where the person trying to hug the child is visibly upset by the child's rejection. In both cases, Kidpower participants significantly increased their correct answers, while the comparison group did not change. Hugging and kissing is often an expected sign of affection that parents require children to show relatives and loved ones whether or not they want to. Forced affection is also a tactic that a child molester uses in "grooming" a child for further intrusions (Pryor, 1996). It is possible that prior to the Kidpower ESSP, the children did not know they should have the right to choose not to be touched or have to touch others for affection if they did not want to.

#### 4.2. Stranger safety

Items within the stranger safety competency area assessed whether students were (a) able to correctly identify who could be a stranger and (b) appropriately cautious of unfamiliar adults. It is important that children do not show indiscriminate trust of unfamiliar adults, since there have been many tragic situations where adults who acted friendly actually intended to harm children (see Pryor, 1996). This study assessed stranger safety with two scenarios: one in which an adult is delivering a package to the child's home, and the other where an adult takes the child's bicycle and asks the child to retrieve it. Of these two scenarios, the first was more mundane and typical, and the second represents a potentially threatening situation to the child's safety. In both cases, Kidpower participants significantly increased their correct answers, while the comparison group did not change. Children are often taught to be deferential to adults. Perhaps prior to the Kidpower ESSP, the children did not realize that they should only approach and engage with trusted, familiar adults whenever they are on their own.

#### 4.3. Help-seeking

Items within the help-seeking competency area assessed whether children knew how to respond to threatening situations by finding a

parent or other trusted adult. Furthermore, these items asked students how they would react if they knew that their adults were preoccupied, with the safety-oriented response being that the child would interrupt the adult and seek help. This study assessed help-seeking with six scenarios. The first was a situation where the child feels scared; in the second, the child is being pressured to do something wrong; in the third, the child observes bullying; in the fourth, a bigger student tries to grab the child; in the fifth, the child has a safety problem but the grown-ups are busy; and in the sixth, someone the child likes asks him or her to keep a secret.

#### 4.4. Maintaining calmness and confidence

Items within the maintaining calmness and confidence competency area assessed student's emotion regulation abilities. This study presented children with two maintaining calmness and confidence scenarios. In the first, the child was asked how he or she would react if called an unkind name, and in the second, a person nearby is making the child uncomfortable. In both cases, maintaining calmness and confidence is the safe response, because becoming upset can often lead to inappropriate or unsafe behavior.

#### 4.5. Strengths, limitations, and avenues for future research

A major strength of the current study is the quasi-experimental design. In addition to the treatment group's safety knowledge being assessed prior to, immediately following the workshop portion of Kidpower, and three months later, after participation in the full Kidpower ESSP with booster sessions, we were able to compare participants' improvements to the pre- and post-tests of a comparison group. This design allows us to tease apart the improvements that may be due to repeated exposure to measures or the passing of time instead of effects due to the Kidpower ESSP.

Another strength is that the program was contextually relevant — children in the study were asked about real-life scenarios. Children are very likely to see someone delivering a package to their homes, have to cope with adults who are busy (such as on a telephone call), or watch another child be bullied. The realism of the scenarios in the assessments allows for a more precise interpretation of results.

A benefit of science-based prevention programs is that there is empirical evidence that the programs garner positive impacts. However, to achieve these positive results going forward, the programs must be implemented with fidelity to the original model that was studied. Therefore, careful monitoring of the uniformity and fidelity of the program's implementation across sites was essential to the success of this study. Our analyses showed a high level of fidelity in the survey administration procedures, the delivery of the ESSP, and the delivery of the booster sessions. There was some unevenness across treatment sites in the number of homework assignments that was signed and returned by parents. Yet, even with this minor discrepancy in the classroom administration, a significant positive impact of the Kidpower ESSP still emerged.

Finally, unlike other studies that simply assess participants' safety skills knowledge based on predefined categories, we obtained participants' own conceptualizations of the safety skills they learned. Through open-ended responses and qualitative analysis of those responses, we were able to parse out the various safety issues as the children understood them. In future research, this knowledge can help to develop more sensitive assessments of their safety skills knowledge.

As with all research, there are limitations to this study that provide insight into potential future research. The present study targeted a specific, potentially higher-risk population in the west coast region of the United States. Follow-up studies should be conducted with a larger population of youth to accumulate additional evidence of the generalizability of the program's effectiveness across a greater range of youth. Additional studies with broader populations can be conducted in

order to analyze differences between girls and boys and among individuals from varied economic, social, ethnic, and national backgrounds.

Furthermore, the current study presented children with scenarios that varied by antagonist. In some cases, the antagonist was a larger student, or other children in school, and in other cases it was an unfamiliar or trusted adult. The scenarios may be overly general, involving various antagonists and contexts, to reflect one overarching safety skill. As an example, the question, “If a friend or family member tries to get you to do something you think is wrong, what would you do?” can be interpreted in many different ways. A child may interpret the question in the following way: an older sibling tries to convince the younger one to sneak out of bed to watch TV after their bedtime, and the younger sibling would then have three choices: (1) sneak out of bed to watch TV after their bedtime, (2) stay in bed and let the sibling get in trouble if they get caught, or (3) go tattle to their parents. Sneaking out of bed is arguably a much different “wrong” act than engaging in abusive behaviors and, depending upon which friend or family member is the protagonist, the child may respond quite differently.

Future research could explore each of these potential antagonists and contexts in more detail, instead of looking across multiple antagonists to get a sense of general student safety skills as the current study has done. Perhaps it would be more appropriate to instruct children on each competency area across many potential antagonists and contexts. For example, future interventions can address maintaining calm and confidence with other children, as well as with both familiar and unknown adults. It is possible that the skills needed to maintain calm and confidence are not the same across different contexts. We believe that this limitation is also associated with the low internal consistency obtained for the competency area scales. Items within each competency area involved scenarios featuring different antagonists and contexts. In future assessments, it may be beneficial to develop separate scales reflecting one safety skill across the various antagonists and contexts.

Another extension of the current research involves exploring the safety issues and intervention strategies in virtual reality. The scenarios presented in the current study took place in face-to-face interactions. Increasingly, bullying and victimization is taking place online, and future work could build off of the current findings to explore internet safety skills.

Because perceptions of bullying and victimization were not measured at Time 3 in the comparison group, it was not possible to test for differences between the two groups in this variable. Although students in the treatment group reported fewer incidents of bullying after participating in the Kidpower program than they did at pre-test, our study design does not allow us to rule out the possibility that bullying decreased across the school district, for reasons unrelated to the Kidpower ESSP. Future studies can provide more rigorous tests of the effect of the Kidpower program on students' and teachers' perceptions of the prevalence of bullying. Ideally, such studies could also incorporate additional measures of the frequency of bullying, perhaps even including independent observations of behavior.

Finally, though the current study involves parents, teachers, and most third-grade students in the participating schools, future interventions and research could take an even stronger ecological approach (e.g., Bronfenbrenner, 1989) to address child safety concerns. For example, if third-graders are the only students in a school who participate in safety training, students and teachers excluded from the training may not respond to potentially dangerous situations in the same safety conscious manner. These excluded students, in particular, may pressure participants to behave in unsafe ways, and diminish some of the progress made by programs like Kidpower. Therefore, a community-centered approach that includes the entire school and the greater community, in addition to parents and teachers, may provide more lasting effects. While the current study focused on a Kidpower ESSP for children, the organization has developmentally appropriate programs for children, adolescents, and

adults that could be provided in such a community centered approach and empirically assessed in future studies.

In conclusion, continued research is necessary to refine the best practices of child safety training. However, our findings provide strong empirical evidence in support of the effectiveness of the Kidpower ESSP, which can serve as a model for future interventions. Moreover, this in-school program demonstrates that it is possible to provide effective, comprehensive, and continued in-school safety skills training that involves students, teachers, and parents, and builds safe school communities while taking up minimal class time.

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