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RELATIONAL AGGRESSION IN SCHOOL SETTINGS: THE EFFICACY OF THE
FIRST STEP TO SUCCESS INTERVENTION

By

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A Dissertation Submitted
to the Faculty of the Raymond A. Kent School of Social Work
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Kent School of Social Work
University of Louisville
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April 9, 2015

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DEDICATION

To the memory of Mrs. A and Miss V – they don't make'em like you anymore!

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It would be foolish for me to think that I completed this degree all on my own. First and foremost, I acknowledge my Creator, Sustainer, Provider, Savior and Comforter, the Lord Jesus Christ. Without His calling and blessing, I certainly would not have made it. He provided the physical, mental, emotional and spiritual ability for me to endure four years of labor pains. Now, I have given birth to the Ph.D. degree and I look forward to the blessings that await me!

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ABSTRACT

RELATIONAL AGGRESSION IN SCHOOL SETTINGS: THE EFFICACY OF THE *FIRST STEP TO SUCCESS* INTERVENTION

Alicia L. Dailey

April 9, 2015

This dissertation is a study of relational aggression (RA) in school settings. RA is a nonphysical type of aggression where the intent is to harm relationships and the social standing of a targeted peer. Examples include social exclusion, gossip, spreading rumors and the silent treatment. RA has negative consequences for both perpetrators and victims, and is associated with friendship problems, peer rejection, depression, anxiety, poor academic performance and dropout. RA is stable and reaches its peak in middle school, continuing into adulthood. In order to address RA, this dissertation argues that early intervention is necessary with young children as early as preschool. The purpose of this study is to explore the efficacy of a broad-based intervention in reducing RA levels in young children.

Chapter One provides an overview of RA, including definitions and significance. The development of RA has been associated with its use by parents and older siblings, social information processing deficits in children entering preschool and socioeconomic status. Methods of measuring RA include teacher report, peer nomination and observation. Chapter Two presents the major tenets of social learning theory, asserting

that young children learn RA from their home and neighborhood environments, while school settings may enhance or inhibit these behaviors, depending upon various reinforcement strategies. Chapter Three reviews RA interventions that have been developed for early childhood and elementary settings, with less than definitive findings. Chapter Four describes the Preschool First Step (PFS) intervention (Feil et al., 2015), and methods for the current study. In order to explore the potential efficacy of PFS, this study addressed the following research questions: 1) Is the PFS intervention efficacious in reducing RA? 2) Do the effects of the PFS intervention differ for children with elevated levels of RA?

Chapter Five presents hypotheses and results. While ANCOVA and ANOVA analyses did not yield significant findings for the intervention group, a responder analysis showed that more children in the intervention group improved, and twice as many children in the control group deteriorated. Chapter Six concludes the study with implications, limitations and suggestions for future research.

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CHAPTER I

PROBLEM STATEMENT AND OVERVIEW OF STUDY

Relational aggression (RA) is a nonphysical type of aggression where the intent is to inflict harm upon relationships. Examples include social exclusion, gossip, spreading rumors and the silent treatment. Because of its destructive nature and capacity for emotional damage, RA has received and will likely continue to receive increasing attention from professionals in the school-based, behavioral intervention literature (Crick et al., 2006; Leff et al., 2010b; Ostrov, Crick, & Stauffacher, 2006).

Chapter one discusses the background and significance of RA and presents the purpose and methodology of the study; chapter two provides a theoretical framework for understanding RA; chapter three discusses research on RA interventions; chapter four details the methodology for this study; chapter five presents results; and chapter six discusses implications, limitations and suggestions for future research.

Background and Significance

In this section, the definition, development and measures of RA are described, gender and RA are discussed, and the consequences of RA are considered.

Definition of Relational Aggression

RA is a nonphysical form of aggression whereby the perpetrator's goal is to inflict or threaten damage to relationships including harm to the target child's social standing or reputation (Leff, Waasdorp, & Crick, 2010a; Low, Frey, & Brockman, 2010; Van Schoiack-Edstrom, Frey, & Beland, 2002). This form of peer manipulation involves

social exclusion tactics and can do long-term reputational damage to the victim. Crick and Grotpeter (1995) have noted that relationally aggressive behaviors can also include acts such as social retaliation, withdrawing one's friendship or acceptance to hurt or control a peer, spreading pejorative rumors, and mean spirited teasing and gossiping.

Several authors contend that RA includes both *direct* and *indirect* forms of behavior (Crick et al., 2006; Leff et al., 2010a; Pellegrini & Roseth, 2006), while others assert that the term RA only describes direct actions, such as verbal or nonverbal threats or actions that are "openly confrontational" and disrupt the peer to peer relationship (Verlaan & Turmel, 2010). Direct acts include verbal threats to end a friendship unless the child does what he or she is asked, social exclusion, and the "silent treatment" by peers. Indirect acts involve rumor spreading with the intention of effecting social rejection of a targeted peer. According to Morine et al. (2011) and Leff et al. (2010a), direct aggression is frequently conducted in the target victim's presence. The term "social aggression" is sometimes used interchangeably with relational and indirect aggression (Leadbeater, 2010). Especially in the past decade, there has been a developing awareness of the myriad problems caused by RA and more indirect forms of aggression within school contexts that also carry substantial risks for perpetrators (Leff et al., 2010a; Walker, 2010).

Direct and indirect forms of RA can occur in face-to-face interactions, or via social media. The rapid development of media technology and the widespread use of electronic forms of communication via smart phones, tablets, and laptop computers, combined with powerful software such as Facebook, Instagram, Twitter, Pinterest and Vine pose a new threat to potential victims of RA. In this paper, RA refers to any

behaviors - direct and indirect - and face-to-face or via social media, intended to disrupt peer-to-peer relationships and harm to the target child's social standing or reputation.

Experts in RA continue to grapple with the nature of the relationship(s) between RA, bullying, and other forms of aggression. Walker (2010) asserted that direct, indirect, and RA are three interrelated forms of bullying-related behavior that underlie peer harassment and victimization. Wolke, Woods, Bloomfield, and Karstadt (2000) identified three domains of bullying: physical, verbal and relational. They equated "relational bullying" with RA and used the same definition that Crick and Grotpeter (1995) developed for RA (See above). Craig (1998) used the terms, "indirect aggression" and RA interchangeably to refer to a nonphysical, socially-oriented form of bullying. She found that bullies and bully/victims (bullies who were also victimized) used indirect aggression as part of a repertoire of aggressive behaviors.

Using a taxonomy of types of aggression developed by Hunt (1993), Walker (2010) classified relational and indirect aggression as a mixture of predatory and instrumental aggression; the former refers to aggressive behavior that is based on revenge and is carefully planned out beforehand while the latter refers to aggression that is used to humiliate, intimidate and dominate the victim. This type of aggression has sociopathic tendencies usually found in a personality disorder (Hunt, 1993).

Prevalence of Relational Aggression

Desjardins and Leadbeater (2011) conducted a longitudinal study to examine RA as a unique predictor of depression among a predominantly white sample of adolescents during a six-year period. During a review of available research, they cited studies that found alarming results. In a longitudinal study using the Canadian National Health

Survey, 11-21% of adolescents aged 12-23 years met the clinical criteria for a Major Depressive Episode (Galambos et al., 2004); there is a strong link between relational victimization and depression (Leadbeater, Boone, Sangster, & Mathieson, 2006; Prinstein et al., 2001), even a predictive relationship (Baldry, 2004); 10-30% of children and adolescents report relational victimization (Hawker & Boulton, 2000), going as high as 51% in one study (Bond, Carlin, Thomas, Rubin, & Patton, 2001); depressed adolescents are especially vulnerable to harmful and even fatal behaviors such as risk-taking, suicide attempts, and completed suicides (Nansel et al., 2001; Weissman et al., 1999).

The National Center for Education Statistics (DeVoe & Murphy, 2011) reported data from the 2009 School Crime Supplement to the National Crime Victimization Survey about bullying and cyber-bullying on children for students aged 12 through 18. For the 2008-09 school year, 28% of students reported being bullied at school. Within the category of bullying, 18.8% reported being made fun of, called names or insulted; 16.5% reported being the subject of rumors; 3.6% reported others tried to make them do things they did not want to do; and 4.7% reported they were excluded from activities on purpose.

Wolke et al. (2000) conducted a study of 1637 primary school children aged six to nine years old in Great Britain, finding the following prevalence rates for RA: 1.1% were relational bullies, 37.9% were relational victims, and 5.9% were both bullies and victims. Because the study of RA is relatively new compared to physical aggression, there are few prevalence studies specifically targeting RA.

Development of Relational Aggression

Research has identified several factors contributing to the development of RA in children. First, Werner, Senich, and Przepyszny (2006) examined mothers' emotional responses and direct intervention strategies to hypothetical displays of their preschoolers' relational and physical aggression. Findings indicated that mothers reported significantly lower levels of upset, anger, and sadness in response to hypothetical situations of RA as compared to physical aggression. They viewed RA as less hurtful and more normative. They were also less likely to intervene in every RA conflict as they said they would do with physical aggression, and less likely to communicate that a rule had been violated as they would with physical aggression. What was associated with preschoolers' use of RA in school. Second, several studies suggest that children learn RA from their parents and use these behaviors with their peers (Casas et al., 2006). Third, Casas et al. (2006) found that mothers' and fathers' authoritarian and permissive styles were positively associated with RA in children aged 2 ½ - 6 years. Fourth, Ostrov et al. (2006) found that siblings' use of RA at home was positively associated with children's use of RA with peers in preschool settings. Fifth, environmental factors such as socioeconomic status may be associated with RA. Living in low-income, urban settings may increase the frequency of RA and enhance its progression to physical aggression, although this etiology is unclear (Leff et al., 2010b; Vlachou et al., 2011). Leff et al. (2010b) cited research showing that students feel unsafe in schools with high levels of RA, and students are more likely to use aggressive strategies to solve problems in classrooms where the RA levels are high. In schools located in low-income communities, there is already an increased risk of violence in school and the neighborhood, and high levels of RA increase this risk even further.

Leff et al. (2009) stated that there is a “greater risk for emotional, academic, and behavioral problems for youth living in inner-city settings” (p. 262).

Waasdorp, Bagdi & Bradshaw (2009) examined how low-income, urban, African American children rated the frequency and harmfulness of RA within their close friendships. They addressed three aims: 1) explore children's beliefs regarding RA; 2) examine children's perceptions of the harm associated with receiving RA from a close friend; and 3) examine what coping strategies children would most likely use in response to receiving RA from a close friend. Data came from 126 fourth and fifth graders attending five public schools located in urban low-income neighborhoods in an inner-city, mid-eastern state. Approximately half of the participants were female (53.2%), 76.4% were Black, 20.5% were White, 3.1% Latino/Hispanic, and the remainder identified themselves as other or mixed race/ethnicity. Students responded to a series of questions about demographics, their friendships, and their experience of RA. They also completed the Indirect, Social, and Relational Aggression Scale (ISRA; Coyne, Archer, & Eslea, 2006) - a self-report measure of perceived harmfulness of RA, and a modified version of the Survey for Coping with Rejection Experiences (SCORE; Sandstrom, 2004). Results indicated that both boys and girls perceived RA to be prevalent and harmful, and that the most frequent coping strategy that they used was ruminative/avoidance (keeping thinking about the RA they received from a close friend).

Finally, some research suggests that relationally aggressive children suffer social information processing (SIP) deficits (Leff et al., 2010a). They have difficulty interpreting social cues; that is, they are more likely to think that others have hostile intentions towards them in neutral social situations (called hostile attributional bias; see

Leff et al., 2010b; Crick & Dodge, 1994). Relationally aggressive youth are also more likely to endorse aggressive solutions to social conflicts than non-relationally aggressive youth (Leff et al., 2010a).

Some researchers contend that relationally aggressive children may not necessarily have SIP deficits but may be popular students who strategically use RA to obtain and maintain social dominance within a peer group (Roseth et al., 2007). Popular students are not necessarily well-liked (Kuppens et al., 2008). They use prosocial and coercive strategies in order to control resources, i.e., getting his/her way (Hawley & Geldhof, 2012; Pellegrini & Roseth, 2006). Whether the children who use RA have SIP deficits or are popular, their intent is the same: to injure a peer's relationships and/or social standing.

Measuring Relational Aggression

The following types of measures have been used to measure RA: peer ratings, peer nominations, teacher ratings, self-reports, observations and other (interviews, qualitative methods, and focus groups; Archer & Coyne, 2005). Examples of peer assessment instruments include the Children's Peer Relations Scale (CPRS-P), developed by Crick and Grotpeter (1995) and the Preschool Social Behavior Scale - Peer Form (PSBS-PF), developed by Crick, Casas, and Mosher (1997). Cronbach's alphas for the CPRS-P were .94 for overt aggression, .83 for RA, and .92 for isolation subscales. Cronbach's alphas for the PSBS-PF were .71 for RA, .77 for overt aggression, and .68 for prosocial behavior subscales.

Examples of teacher report instruments include the Children's Social Behavioral Scale - Teacher Form (CSBS-T), developed by Crick (1996) and the Preschool Social

Behavior Scale - Teacher Form (PSBS-T), developed by Crick et al. (1997). Cronbach's alphas for the CSBS-T were .94 for RA and overt aggression and .93 for prosocial behavior subscales. Cronbach alphas for the PSBS-TF were .96 for RA, .94 for overt aggression, .88 for prosocial behavior, and .87 for depressed affect subscales.

Examples of self-report instruments include the Indirect, Social and Relational Aggression Scale (ISRA), which measures perceived harmfulness of RA (Waasdorp et al., 2009) and the English Version of the Relational Aggression and Victimization Scale (RAVS; Lagerspetz, Bjorkqvist, & Peltonen, 1988 as cited in Craig, 1998). Cronbach alphas for the ISRA were .93 for Part I and .94 for Part II. Cronbach alphas for the RAVS were .88 for physical aggression, .84 for verbal aggression, and .80 for indirect aggression (Craig, 1988).

Gender and Relational Aggression

Research has been conducted to assess whether displays of RA vary – quantitatively or qualitatively – by gender. Bjorkqvist, Lagerspetz and Kaukiainen (1992) investigated the development of indirect aggressive strategies in boys and girls. They defined indirect aggression as “a type of behaviour in which the perpetrator attempts to inflict pain in such a manner that he or she makes it seem as though there has been no intention to hurt at all” (p. 118). Examples include backbiting (gossiping), manipulation and slander. Participants in the study came from two age cohorts (ages 8 and 15) in Finland. These cohorts were compared to each other and a cohort of students (age 11) from an earlier study by Lagerspetz et al. (1988). Results revealed that 1) physical aggression seems to be more frequent among boys in all age groups; 2) indirect aggression appears more frequently in girls but is not fully developed at age 8; 3) direct

verbal aggression appears equally in boys and girls at age 15; and 4) the use of indirect aggression is dependent upon maturation and on the existence of a social network to inflict damage on the targeted peer. The boys' and girls' social networks do not differ significantly at age 8, but do at ages 11 and 15, with girls having significantly closer networks.

One of the goals of the study by Crick and Grotpeter (1995) was to assess gender differences in the use of RA. There were 491 participants from a moderately sized Midwestern city in the third through sixth grades: 128 third graders (65 girls and 63 boys), 126 fourth graders (56 girls and 70 boys), 126 fifth graders (57 girls and 69 boys), and 111 sixth graders (57 girls and 54 boys). About 60% of the sample was European-American, 37% African-American and 3% from other ethnic groups. Participants completed peer nomination and self-report instruments. A peer nomination instrument was developed to assess relational and overt aggression. Students were classified into four groups: nonaggressive, overtly aggressive (physical and direct verbal), relationally aggressive, and combination overtly-relationally aggressive. A descriptive analysis of gender differences found no differences in the nonaggressive group, a predominance of boys in the overtly aggressive group, a predominance of girls in the relationally aggressive group, and more boys than girls in the combined group. In addition to descriptive analysis, Crick and Grotpeter (1995) conducted two analyses of variance (ANOVAs) in which gender was one of the independent variables and overt aggression and RA were dependent variables. Results showed that girls were significantly more relationally aggressive than boys and boys were significantly more overtly aggressive than girls. The researchers asserted that when aggression is assessed combining both

overt and relationally aggressive components, there are almost as many aggressive girls as boys – in contrast to previous research where boys were considered more aggressive than girls because only overt aggression was assessed.

Crick et al. (1997) sought to extend knowledge about RA from elementary school to preschool. Their sample of 65 preschool students consisted of approximately 73% European American, 16% Asian American, 5% African American, 5% Latino, and 2% American Indian children. The researchers assessed the students using teacher ratings (Preschool Social Behavior Scale--Teacher Form; PSBS-TF) and peer nominations (Preschool Social Behavior Scale--Peer Form; PSBS-PF). These instruments were significantly correlated in their assessment of girls' use of RA, but not for boys. Results indicated that preschool girls used RA significantly more than preschool boys and used overt aggression significantly less than boys. Other studies indicating there are gender differences in the use of RA (i.e., that girls display significantly more RA than boys and boys use more physical aggression than girls) include Ostrov and Keating (2004); Crick et al. (2006); Ostrov and Crick (2007); Vlachou, Botsoglou, and Didaskalou (2011); and Leadbeater (2010).

Some studies did not find significant gender differences in children's use of RA. For instance, Tomada and Schneider (1997) tried to replicate and extend Crick and Grotpeter's (1995) study by using a sample of 314 elementary students from Italy (147 girls and 167 boys). They hypothesized that physical and verbal aggression would be more typical of boys and covert or RA would be more typical of girls. They found that these hypotheses were not supported in Italian culture. Instead, boys exhibited higher levels of both overt aggression and RA. These interpreted results may possibly be

explained by three differences: First, different grades were studied. Crick and Grotpeter's (1995) research studied third through sixth graders, whereas Tomada and Schneider's (1997) sample only had third and fourth graders. Second, different cultures were represented in these studies, which may differ in their tolerance of aggression. Whereas Crick and Grotpeter's (1995) sample had 60% European-American, 37% African-American and 3% other ethnic groups, Tomada and Schneider's (1997) Italian sample was racially homogenous. Third, there were different measurement approaches. Crick and Grotpeter (1995) used the Children's Social Behavior Scale - Peer Form (CSBS-P; a peer nomination instrument developed for their study) and self-report instruments to identify relationally and overtly aggressive students; Tomada and Schneider (1997) also used the CSBS-P but did not use self-report. Instead, they used teacher nomination by having them complete the same items on the CSBS-P. Peer and teacher nominations showed poor concordance. The two studies agreed that RA is a distinct construct from overt aggression in both the United States and Italy.

In a study of 66 preschool students by Morine et al. (2011), no significant gender differences in the use of RA were found based on teacher ratings and peer nominations. The instruments used were the same as in Crick et al.'s (1997) preschool RA study: the PSBS-T and the PSBS-P. The ethnic composition of the sample was as follows: 89.4% Caucasian, 6.1% African-American and 4.5% other. This sample was less racially diverse than Crick et al.'s (1997) study.

Some researchers have offered explanations for the mixed results regarding gender differences and RA. Kuppens et al.'s (2008) study of 2731 third to fifth graders in Belgium showed that, while there was a higher correlation between RA and girls, the

strength of the correlation was weak and results varied across classrooms. The researchers suggested that, in classrooms where RA is more prevalent, there may be a higher use of RA in individual children. Gender distribution in a classroom may moderate displays of RA. That is, in classrooms where there are proportionately more girls than boys, there may be a higher occurrence of RA.

Other social contexts may affect outcomes of RA and gender studies. Using observation, Ostrov and Keating's (2004) study of gender differences in preschool children found that, in a structured setting (a coloring task), gender differences in aggression lessened so that girls and boys did not differ reliably. However, when observation of free play was included, girls used more RA than boys and boys used more physical and verbal aggression than girls.

Different methodologies may also explain different outcomes in RA and gender studies. In a meta-analysis that included nine countries outside of the United States, Archer (2004) found that observational studies showed a much higher use of RA by girls than peer and teacher reports. Peer nominations showed no gender difference in young children, but tended to show increasing differences (in the direction of girls) with increasing age (later childhood and adolescence). Summarizing several studies, Pellegrini and Roseth (2006) reported that, in studies using direct observation, females used RA more than males, whereas in teacher ratings, no differences between the sexes were detected.

Consequences of Relational Aggression

RA is a multi-faceted construct, and the development of RA is affected by caregivers, peers, and the environment. If unattended to, RA may result in serious harm

to victims and long-term, negative consequences for perpetrators (Walker, 2010). Negative effects for victims include depression, anxiety and poor psychological adjustment (Desjardins & Leadbeater, 2011). Consequences for perpetrators include 1) concurrent peer rejection (Crick, 1996; Crick & Grotpeter, 1995), 2) future peer rejection (Crick et al., 2006), 3) social maladjustment such as friendship problems (Crick, 1996; Leff et al., 2010a), 4) internalizing problems such as isolation, loneliness, anxiety and depression (Crick & Grotpeter, 1995; Desjardins and Leadbeater, 2011), 5) school avoidance (Leff et al., 2010a), and 6) being victims of physical aggression (Leff et al., 2010b). Murray-Close & Crick (2006) pointed out that problems such as depression, poor academic performance, school avoidance and dropping out were present in both victims and perpetrators.

Summary, Purpose and Methodology

RA is a nonphysical type of aggression where the intent is to inflict harm upon relationships. Examples include social exclusion, gossip, spreading rumors and the silent treatment. The development of RA in young children has been associated with authoritarian and permissive parenting styles, siblings' use of RA, SIP deficits in children entering preschool, socioeconomic status, and the ability to attain and maintain social dominance. Measures of RA include peer ratings, peer nominations, teacher ratings, self-reports, observations and qualitative methods. Although some studies show that girls use RA more than boys, findings may vary according to the method employed. Both perpetrators and victims experience long-term, negative effects which include depression, anxiety and poor school performance.

The purpose of this study was to examine the potential efficacy of a broad-based intervention in reducing levels of RA. Preschool First Step to Success (PFS) seeks to increase pro-social behaviors that are needed for academic success. Previously, PFS was shown to be efficacious in reducing young children's challenging behaviors at school (Feil et al., 2015).

First Step to Success and several other evidence-based behavioral interventions are based upon social learning theory, which asserts that behavior is learned from others and increases with reinforcement from others. This theory is discussed in the next chapter.

CHAPTER II

SOCIAL LEARNING THEORY

Social Learning Theory (SLT) is frequently used to understand disruptive behaviors characteristic of RA. The seminal author of SLT is Albert Bandura, who asserted that most behavior is learned (Bandura, 1977). One way that humans learn behavior is by direct experience. People experience positive and negative effects from their actions. This is learning by response consequences. People generally learn what they must do to have successful outcomes and avoid unsuccessful ones (Bandura, 1977). In this chapter, an overview of SLT is provided, discussing the role of modeling in acquiring behavior; the role of reinforcement in increasing behavior; the role of punishment in either increasing or decreasing behavior; antecedents and consequences of behavior; elements in labeling aggressive behavior; and the application of SLT to conduct disorders.

Modeling

Bandura contended that the main way that people learn is by observing the performance of behavior by others as well as the outcomes (positive or negative) of others' behavior (Bandura, 1977). Observers then decide whether to imitate the behavior that has been modeled before them. The processes by which information guides an observer (often without messages conveyed through language), so that behavior is narrowed from trial-and-error responses to a selected response, are collectively termed *modeling* (Rosenthal & Steffek, 1991). Models not only influence behavior; they also influence the development of emotional responses. People observe how others behave.

They also learn to evaluate places, persons, or things based upon modeled attitudes (Bandura, 1977).

According to Bandura (1977), a person will not acquire every behavior that is observed. Models may have different levels of influence on the observer. A model who has high status, power and competence may be more attractive to an observer because the results of that model's past behavior have been successful or positive. In addition to past behavioral successes, a model's winsome and interesting qualities themselves may be inviting to the observer to emulate (Bandura, 1973).

Aggressive Modeling

It is important to note that both wanted and unwanted behaviors can be modeled (Martella, Nelson, & Marchand-Martella, 2003). Disruptive behaviors such as aggression are often learned by observation. Bandura (1973) defined aggression as physical assault (personal injury and/or destruction of property) or psychological assault (devaluation or degradation). The latter may include RA.

In Bandura's (1973) famous Bobo doll experiment, nursery school children who were exposed to adult aggressive modeling with a large plastic figure (in different forms: in person, on film, and costumed as a cartoon figure) were compared to those who were not exposed to any modeling and to those exposed to nonaggressive modeling. As expected, children exposed to aggressive modeling showed substantially more aggressive acts toward the Bobo doll when they were placed in the room with it (and other toys) than the no modeling control group and the nonaggressive modeling group. The model had two important effects on the observers: 1) it taught them new aggressive acts, and 2) it reduced their inhibitions about performing aggressive acts that were not modeled in the

experiment. The children exposed to aggressive modeling subsequently displayed their own variations of aggression, in addition to those they learned from the adult model.

Bandura (1973) stated that there are three sources of aggressive modeling in modern society: 1) one's family, 2) one's subculture, and 3) symbolic models from the mass media, especially television. Citing a study by Bandura and Walters (1959) which compared parents of adolescent boys who displayed antisocial aggression to parents of nonaggressive, non-passive counterparts from middle class, two-parent families, Bandura (1973) reported that parents of nonaggressive boys modeled consideration and reasoning in handling conflicts. They also taught their sons to stand up for their principles without using physical aggression. On the other hand, parents of aggressive boys modeled and reinforced combative attitudes and behavior, and at least one parent of the aggressive sons condoned physical aggression against peers, teachers and others outside of the family.

The second originator of aggression, according to Bandura (1973), is one's subculture. Citing Short (1968) and Wolfgang and Feracuti (1967), Bandura wrote that in delinquent subcultures such as gangs, high status models use aggression and receive prestige from the environment. Aggression is highly valued, which in turn, promotes more aggression. One gains status through one's fighting ability. Top fighters become prestigious role models and members of the deviant subculture want to emulate their behavior. The environment reinforces youths' use of aggression and violence. The combination of aggressive modeling and environmental reinforcement creates ripe conditions for increased violence (Bandura, 1973). If members of a gang see the leader

being rewarded by injuring or killing someone, they will consider doing the same things to achieve status and recognition.

Bandura (1973) wrote that the third originator of aggression is symbolic modeling, as shown in television and other mass media. He argued that television is very powerful because it can reach an enormous amount of people in widely different locations across the globe at the same time or within a short timeframe. Because humans only directly interact with a small segment of society, much of what people learn about others (and come to believe) is transmitted through the mass media, and television in particular. Bandura's Bobo doll study showed that the filmed aggressive model had the same effect upon the children as the live aggressive model. Since Bandura's major works were written in the 1960s and 1970s, the internet was not yet in existence. However, he predicted that as technology increased so that people could view any desired activity on computer screens, the influence of symbolic modeling would increase and the influence of traditional role models such as parents and teachers would decrease (Bandura, 1973).

As is the case with physical aggression, children learn RA from parents, siblings, peers and others who model it before them, according to SLT. Children observe behaviors such as excluding others, telling lies, gossiping, spreading rumors and threatening to withdraw friendship as a means of controlling relationships. They also observe the outcomes of these behaviors in others. If others appear to “get what they want” or if those modeling RA are highly esteemed, children are more likely to incorporate RA into their own behavioral options.

The Role of Reinforcement

Another important tenet of social learning theory is the reinforcement of behavior. When a behavior (whether wanted or unwanted) is displayed, it must be reinforced in order for it to continue (Martella et al., 2003). There are two types of reinforcement: positive and negative. With positive reinforcement, something is given or added (called a stimulus) when the behavior occurs, increasing the likelihood that the behavior will be repeated. Examples of positive reinforcement include praise, reprimands and good grades. Unwanted behavior can be positively reinforced unintentionally by giving it attention (Martella et al., 2003). With negative reinforcement, something is removed from the environment that the person wants to avoid or escape (called an aversive stimulus). Examples of aversive stimuli include the threat of losing recess for misbehavior and warning of a failing grade on a test if the student does not study. Students may perform the desired behavior in order to escape missing recess or to avoid a failing grade. While negative reinforcement may increase the desired behavior, there are some negative side effects of its use, such as evoking fear towards the person who controls the aversive stimulus, interfering with learning, promoting aggression towards the person controlling the aversive stimulus, and modeling using aversive stimuli (Martella et al., 2003).

Adults use different modeling and reinforcement strategies with children, depending upon their age. At first, when children have limited linguistic skills, behavioral modeling (i.e., demonstration) is required, and external (physical or tangible) sanctions and demands are needed. But as children mature and linguistic skills increase, behavioral modeling can be replaced with verbal modeling (e.g., oral instructions),

external sanctions can be replaced with social sanctions (approval or disapproval) and external controls can be replaced with internal controls (Bandura, 1977).

Teachers may unknowingly reinforce students' RA behaviors (e.g., gossiping, rumor-spreading and social exclusion). By overlooking peer conflicts that do not involve physical aggression, they are giving tacit approval to RA (Walker, 2010). Since RA has been shown to be harmful to both victims and perpetrators (Murray-Close & Crick, 2006), intervention is warranted. Teachers and other adults who understand SLT may reduce a child's use of RA by positively reinforcing appropriate behaviors with strategies such as praise.

The Role of Punishment

The purpose of punishment (also called aversion procedures by Sandler & Steele, 1991) is to reduce the likelihood that an unwanted behavior will be repeated (Martella et al., 2003). As with reinforcement, there are two types of punishment. Positive punishment adds an aversive stimulus (such as a speeding ticket) after a behavior. Negative punishment involves removing a reinforcing stimulus (such as the loss of a privilege) after a behavior (Akers, Krohn, Lanza-Kaduce, & Radosevich, 1979; Martella et al., 2003). The use of aversive procedures is an issue of continuing debate (Sandler & Steele, 1991). Spanking, for instance – while meant to be a punishment – may actually serve as a positive reinforcer with some children because undivided attention is given to misbehavior rather than to appropriate behavior, resulting in an increase in the unwanted behavior. Martella et al. (2003) contended that the use of positive punishment has the same negative side effects as those associated with negative reinforcement described above, e.g., fostering fear and aggression towards the person using the aversive stimulus,

interfering with learning and modeling the use of aversive stimuli. They also pointed out that punishment may not result in a lasting change in behavior. Once the punishment is removed, the unwanted behavior may return.

Akers et al. (1979) summarized reinforcement and punishment of behavior in this way: “Whether deviant or conforming behavior is acquired and persists depends on past and present rewards or punishments for the behavior and the rewards and punishments attached to alternative behavior - *differential reinforcement*” (p. 638).

When seeking to reduce RA in children, a two-pronged approach may be indicated. First, prosocial behaviors need to be reinforced and rewarded. At the same time, social sanctions (expressions of disapproval) may be used to respond to relationally aggressive behaviors in order to convey their seriousness and damaging effects. In some situations, negative punishment (the loss of a privilege) may be also be needed. For example, if a youth uses social media or a cell phone to spread malicious gossip, consequences may include the loss of use of that privilege for a specified period of time.

Antecedents and Consequences of Behavior

According to Martella et al. (2003), the actual behavior is the dependent variable in SLT and the antecedents (the things that occur just prior to the behavior) and consequences (the things that occur immediately following the behavior) are independent variables. In other words, behavior is primarily caused by antecedents and consequences. For example, Child A goes to the blocks center, where Child B is already playing (the antecedent). Child B responds by telling Child A, “You’re not my friend!” (the behavior). Child A goes to the teacher, crying, and telling her that Child B won’t let him play. The teacher comes and tells Child B that, “In this class, we play with everybody”

(the consequence). However, if the teacher comes to Child B, rubs his back and says, “Be nice,” the consequence might be inadvertently reinforcing and the behavior might increase. Martella et al. (2003) argued that SLT focuses on antecedents and consequences rather than on the actual behavior. When interventions are implemented to change a student’s behavior in school settings, that behavior provides information on how well teachers and other staff are managing the antecedents and consequences (also called “manipulating the environment,” p. 33). Anything that is done to change children’s cognitive processes, such as teaching them empathy skills, is considered manipulating the environment. Bandura (1977) held that more than the environment is necessary to change behavior. Cognition is important, because a person must understand what the desired behavior is that is being reinforced.

Labeling Aggressive Acts

Bandura (1973) argued that the same behavior may or may not be labeled “aggressive,” depending upon the social context. For example, the physical assaults by players during a football game would generally not be considered aggressive, but these same assaults would be considered aggressive on the street. Bandura (1973) identified six factors that influence whether an act is socially labeled as aggressive: 1) characteristics of the behavior, 2) intensity of the behavior, 3) expressions of pain or injury by recipients of the aggression, 4) perceived intentions of the aggressor, 5) characteristics of the labelers and 6) characteristics of the aggressor. See Table 1 for more information on these factors. These factors may be applied to RA. For example, a behavior may be labeled RA if its intent is to harm, or threaten to harm, a relationship.

[Insert Table 1 here]

Social Learning Theory Applied to Relational Aggression

Relationally aggressive children experience more social and emotional adjustment problems than their non-relationally aggressive peers (Casas et al., 2006). Problems may include the development of antisocial tendencies (Walker, 2010), which would include conduct disorders. Patterson (1974) applied social learning theory to develop interventions for boys with conduct disorders in the home and school settings. Twenty-seven families were referred to the social learning project at the Oregon Research Institute from juvenile court, schools and mental health clinics who had labeled at least one boy in each of these families with a conduct problem. The families received the home intervention, and 14 of the 27 families also received classroom intervention because these boys had been identified by their teachers as displaying highly disruptive behavior and/or being delayed academically. The agents in both settings (parents and teachers) received training in social learning and in observation and reporting procedures. Patterson (1974) argued that interventions were needed for home and school settings, with those in the home setting focusing on parent-child interactions and the influence of older siblings and those in the school setting focusing on the influence of teacher-child interactions and the influence of peers. Results indicated that conduct problems in both settings were moderately reduced, with gains persisting after one-year follow-up. Patterson's seminal work laid the foundation for decades of research and practice for children with challenging behaviors, including those who display RA.

Summary and Theoretical Implications

While there are several theoretical approaches that explain behavior, such as psychodynamic and attachment theories, research on RA interventions (to be discussed in

the next chapter) suggests that SLT may be the best explanation of how RA is acquired, maintained and diminished. Modeling, reinforcement, punishment, antecedents and consequences all affect RA – whether these things are intentional or unintentional. Modeling may explain why young children, exposed to RA from parents and older siblings, display these behaviors in preschool. Within the SLT framework, reinforcement or non-reinforcement of RA in different social contexts - such as home, classroom, school or culture – facilitates or inhibits students’ use of RA. In the next chapter, selected interventions that address RA in school settings are explored.

CHAPTER III

REVIEW OF RELATIONAL AGGRESSION INTERVENTION RESEARCH

Recently, systematic efforts have been initiated to address RA, either by developing new interventions or modifying existing interventions to more directly prevent or treat this phenomenon within school settings. In this section, these efforts are synthesized; they are organized by students' developmental level, including early childhood and elementary populations. This study focuses on these age groups for the following reasons: 1) Since the occurrence of RA has been documented in early childhood (Crick, Ostrov, Appleyard, Jansen, & Casas, 2004; Crick et al., 1997), research must focus on this group to have a fuller understanding of the etiology of RA (Casas et al., 2006); and 2) Because RA behaviors begin early in a child's life, prevention efforts should target very young children. Following are descriptions of interventions and research on their efficacy and effectiveness. See Table 2 for an overview of each intervention.

[Insert Table 2 here]

Early Childhood

Early Childhood Friendship Project

Description and Participants. *The Early Childhood Friendship Project* is a six-week, classroom-based prevention program designed by Ostrov et al. (2009) to decrease physical aggression, RA and peer victimization while increasing prosocial behaviors (i.e., friendship-making skills) in young children. The program consists of one 10-minute

developmentally-appropriate puppet show, one 5-10 minute participatory activity (such as smiling or inviting a classmate to play) and one concept practice activity (5-10 minutes) each week. The themes for the six weeks are as follows: 1) program introduction and rapport-building; physical aggression; 2) social exclusion and RA; 3) social inclusion and prosocial behavior; 4) threats of withdrawing friendship and RA; 5) forming friendships and prosocial behavior; and 6) review and graduation (Ostrov et al., 2009).

A preliminary implementation of the intervention was evaluated by Ostrov et al. (2009). Eighteen classrooms from three public schools and four community-based centers participated in the study, with the classroom being the unit of analysis. The public schools served ethnically diverse, low income, urban families from the northeast. The community centers were accredited by the National Association for the Education of Young Children which served ethnically and economically diverse families from suburban and urban backgrounds. Children were between three and five years of age. Since the classroom was the unit of analysis, classrooms were randomly assigned to intervention or control classrooms. There were nine intervention classrooms (N = 202 children) and nine control classrooms (N = 201 children). The only significant difference between the intervention and control classrooms was that the intervention classrooms had more children, on the average, than the control classrooms prior to random assignment (M = 27.67 for intervention classrooms; M = 22.30 for control classrooms).

The researchers had three hypotheses: 1) intervention classrooms would show a greater decrease than control classrooms in physical and RA; 2) intervention classrooms would show a greater decrease in physical and RA than control classrooms between pre-

and post-tests; and 3) intervention classrooms would show a larger increase in prosocial behavior than control classrooms, over time.

Definitions of physical and relational aggression. Ostrov et al. (2009), citing Dodge, Coie, and Lynam (2006), used the following definition for physical aggression: “the intent to hurt, harm, or injure with physical force or the threat of physical force, including kicking, hitting, pushing, and forcibly taking objects” (p. 16). For RA, Ostrov et al. (2009) used the following definition from Crick and Grotpeter (1995): “using the removal or threat of the removal of the relationship to harm, including social exclusion, friendship withdrawal threats, ignoring, spreading malicious rumors, gossip, secrets, and lies” (p. 16).

Measures used to collect data. Data were collected by observations of aggression and victimization, and by teacher report of prosocial behavior. For observations, Ostrov et al. (2009) revised Ostrov and Keating’s (2004) Early Childhood Observation System. This system uses focal child sampling, where a child is randomly selected for observation. Instead of observing the focal child for 10 minutes as in Ostrov and Keating’s (2004) system, Ostrov et al. (2009) observed the focal child for only 3 minutes, stating that, because the sample size of children was large ($N = 403$), and the classroom was the unit of analysis (rather than the child), a shorter observation period would allow observations of more children in the classroom. Observers used continuous event recording, marking behavior categories on a checklist on a form on their clipboards. Before observations started, observers spent time in the classrooms so that children would know them and pay less attention to them during the observations. Different observers observed the same children to see if they were categorizing observed

behavior in the same manner. Inter-rater reliability was deemed “adequate” (intraclass correlations $> .70$), meaning that different raters agreed on the categorization of the observed behavior for the same children more than 70% of the time. To prevent children from being observed more than once per day, the morning observer would select children of one gender to observe and the afternoon observer would observe the other gender. Each classroom was observed 10 times during the pre-intervention phase and another 10 times during the post-intervention phase. The total number of observations for fall and spring was exactly the same: 1,802 for both the pre- and post-tests (Ostrov et al., 2009).

Teacher report was used to assess prosocial behavior. The Preschool Social Behavior Scale-Teacher Form (PSBS-TF), developed by Crick et al. (1997), was changed from a child focus to an anonymous classroom focus. The content from the scale remained the same except that three new items were added to more adequately represent the prosocial behaviors taught in the curriculum. A scale ranging from 1 (*never to almost never true*) to 5 (*always or almost always true*) was used (Ostrov et al., 2009). The revised complete PSBS-TF was found to be reliable at time 1 (Cronbach’s alpha = .79) and time 2 (Cronbach’s alpha = .82). Cronbach’s (or coefficient) alpha is one means of computing the internal consistency reliability of an instrument that contains multiple items which, when all are scored, produce an overall score. Coefficient alphas from .80 to .89 are considered good, and alpha values of .90 or above are considered excellent. Coefficient alpha values below .80 are acceptable for shorter instruments (Rubin & Babbie, 2011).

Ostrov et al. (2009) assessed program implementation for content and process. Both were important because content involves the amount of the material covered and

process involves the extent to which the program was implemented as intended by its developers. The first and second authors conducted these observations at the intervention schools during a week chosen at random. The checklist they completed contained a list of the items that the program implementer covered. In addition, observers rated the implementer's style in the following domains: warmth, communication style (pacing/modulation), developmental appropriateness, and child engagement/interest. Ratings ranged from one ("superior") to seven ("inappropriate"). The researchers found that 100% of the content was represented and they rated the interventionists' manner of implementation as being nearly "superior" (average rating of 1.38, SD = .44). On the average, the interventionists' style was warm, developmentally appropriate, with good pacing and high levels of child engagement (Ostrov et al., 2009).

Analysis and Outcomes. Since the unit of analysis was the classroom and not the individual focal child, there was not enough statistical power to test for the significance of intervention effects using t-tests. All intervention effects (observed RA, observed physical aggression, observed relational victimization, and observed physical victimization) were non-significant. Low power is mainly due to small sample size (Meyers, Gamst, & Guarino, 2006; Tabachnick & Fidell, 2007). However, effect sizes using the Cohen's *d* statistic were calculated from independent t-tests for the five main constructs in the study to assess the magnitude of *potential* (italics mine) differences between control and intervention classrooms, since actual differences could not be detected. The five constructs were "observed relational aggression, observed physical aggression, observed relational victimization, observed physical victimization, and teacher-reported prosocial behavior" (Ostrov et al., 2009, p. 24). Prior to the analysis, a

change score was calculated for each of the five constructs (pre-test score was subtracted from the post-test score). All group t-tests were run with the change score as the dependent variable. Following Cohen's (1988) recommendations on effect sizes for t-tests, the authors found large effect sizes for observations of RA and physical victimization; moderate effect sizes for observations of physical aggression and teacher reports of prosocial behavior; and small effect sizes for observations of relational victimization (Leff et al., 2010a; Ostrov et al., 2009). From these effect sizes, the authors claimed that children attending intervention classrooms showed greater reductions in RA, physical aggression, relational victimization and physical victimization than the control classrooms over time (fall and spring), and that the intervention classrooms showed greater increase in prosocial behavior over time (Ostrov et al., 2009; Leff et al., 2010a).

The strengths of the study include high implementation fidelity, and high reliability of the measure used to assess teacher report of prosocial behavior (Leff et al., 2010a). A major limitation of this study is that there were no significant effects due to low power, probably as a result of low sample size (Tabachnick & Fidell, 2007).

You Can't Say You Can't Play

Description and Participants. The *You Can't Say-You Can't Play* intervention program for RA is designed for use with kindergartners. It is based upon a book by Paley (1992), a kindergarten teacher who argued that no child should be excluded at school. She rejected the "deficit approach" of many programs which teach target children social skills that they apparently lack, contending that social exclusion is a group process that needs to be addressed at the group level. Leff et al. (2010a) described the program as an eight to ten session curriculum that emphasizes creating a peer group context and

classroom climate where a rule is used to teach avoidance of using social exclusion. Harrist and Bradley (2003) used a partial randomized group design to evaluate the program. Classes from three schools were randomly assigned to an intervention or control group, after logistical issues (such as a team-taught class or classes sharing playground time) were addressed. The resulting sample was comprised of six intervention classes and four control classes. One hundred and forty-four (144) children participated in the program. The schools were neighborhood schools (where there was no bussing); therefore, the schools reflected the neighborhood's demographics. The sample consisted of 57% Euro-American, 34% Mexican-American, 5% Asian-American and 4% African-American. The socioeconomic status of the children ranged from poverty level to upper middle class, with most children coming from lower middle class families. The purpose of the study was to assess whether there were significant differences between intervention and control classes on the following: 1) liking of their peers, 2) feelings about themselves and other peers, and 3) play behavior that excluded peers. The researchers were interested in comparisons at the classroom level and on the sociometric status level of children, i.e., children who were identified as "excluded" children.

Procedures. The study had three phases: pre-intervention, intervention, and post-intervention. The pre-intervention phase occurred during the first eight weeks of the school year, while kindergarten children became acclimated to the school routine, teachers and peers. At the conclusion of this phase, teachers completed a questionnaire packet for each child who was participating in the study. Child sociometric interviews (See below for description) were also conducted with participating children (mean

consent rate of parents was 84%, with a range of 77-100%). Children identified as being at risk of exclusion were subsequently observed.

The intervention phase first consisted of storytelling (reading Paley's (1992) fairytale), discussion and role-play by graduate research assistants over the course of three weeks. Next, the "You can't say you can't play rule" was introduced by the same assistants, followed by discussion about how the rule was to be applied. The research assistants returned to the class weekly for the following six to eight weeks to continue the discussion and to find out from the children how the new rule was working.

The post-intervention phase occurred during the final weeks of the school year. During this phase, children who were observed at the beginning of the school year were observed again. Child interviews and teacher questionnaires were also completed again.

Measures used to collect data and operationalize variables. Harrist and Bradley (2003) operationalized the following dependent variables: 1) peer liking, 2) teacher-rated interaction difficulty, 3) self-perceived acceptance, 4) social dissatisfaction, 5) time alone, 6) entry attempts, and 7) entry accepted. Measures used to collect data for these variables were peer report, teacher report, child self-report, and observed behavior. Peer report consisted of a sociometric interview with children who indicated from a set of pictures the three classmates they liked the most and the three they liked the least.

Teacher report consisted of two questionnaires: The Preschool Socioaffective Profile (La Freniere, Dumas, Capuano, & Dubeau, 1992) and the Teacher's Checklist of Peer Relationships (TCPR; Dodge, 1986). All Cronbach's alpha (reliability) values were at or above .86. From these scores, a summary variable, labeled "Teacher-Rated Interaction Difficulty" was computed.

Child self-report values came from the child interviews about self-perceptions. Two self-report variables were computed: self-perceived acceptance and social dissatisfaction. Assessment tools used were the Children's Social Acceptance Profile (Harter & Pike, 1984) and the Loneliness and Social Dissatisfaction Scale (Asher, Hymel, & Renshaw, 1984). All Cronbach's alpha values were at or above .72.

Observations of peer excluded children occurred during free play at recess or in the classroom 12 times for five minutes each, making a total of one hour of observation. The observations were conducted over five days during the pre- and post-intervention phases. Data were recorded every 15 seconds. Group-entry attempts and group response to the attempts were coded. If no attempt or response occurred during the 15 seconds, other codes were used to describe the child's behavior, i.e., alone-directed, alone-undirected, with group, with adult, and parallel play (Harrist & Bradey, 2003).

Analysis and Outcomes. A two by two analysis of covariance (ANCOVA) was conducted to test for differences between intervention and control groups, after controlling for pre-existing differences across classes. The two dependent variables were peer liking and social dissatisfaction, and the two independent variables were study condition (intervention, control) and sociometric status (peer excluded vs. peer accepted). Because only excluded children were observed, sociometric status was not considered in the observational analyses. The authors reported mixed results, with no changes in rates of observed social rejection and social exclusion reported by teachers. However, there was a significant difference in peer liking and in social dissatisfaction in intervention classrooms, with reported small to moderate effect sizes. That is, children in intervention classrooms reported liking their peers more after the program, but also reported more

dissatisfaction with peer relationships (Leff et al., 2010a). The dissatisfaction may have been due to class rule that prevented them from choosing their own friends. There was not a significant interaction between study condition and sociometric status.

Strengths of the study include several sources of data and high reliability of measures used. A threat to internal validity was the study's quasi-experimental design. The study was also underpowered to detect significant differences, with only 10 classrooms. Limitations also included no evaluation of inter-rater reliability and fidelity of implementation (Harrist & Bradley, 2003).

Elementary

Making Choices: Social Problem Skills for Children

Description and Participants. *Making Choices: Social Problem Skills for Children* (MC) is a 22-week after- or at-school group intervention program (18-28 hours) intended to alleviate SIP deficits, reduce peer rejection, and increase prosocial behaviors (such as building friendships and learning social problem-solving skills) and social competence (i.e., regulating emotions and correctly encoding social cues) in aggressive third to sixth grade children (Fraser, Day, Galinsky, Hodges, & Smokowski, 2004; Leff et al., 2010a). Children learn to work with others collaboratively, to recognize strong emotions that may result in physically aggressive responses, and to use self-talk to choose prosocial responses and avoid harmful responses in social situations. The MC manual contains 30 lessons about children's social cognition and skills. Also included are 1) a summary of theories and research related to factors that may place children at risk for childhood aggression and peer rejection, 2) strategies for working with children and

families from various backgrounds, and 3) building relationships with families and adapting content to meet the unique needs of families.

Fraser et al. (2004) conducted a randomized controlled trial of the MC program in conjunction with a parenting skills program called Strong Families (SF). The SF program is composed of 15 lessons on “child development, parent-child communication, family problem solving, and discipline” (p. 316). One hundred fifteen children and their families participated in the project. Sixty-two were randomly assigned to the intervention condition and 53 were randomly assigned to the “wait list control condition,” meaning that they were offered the MC and SF programs at the conclusion of the study. Children in the intervention group received the MC intervention while their parents participated in the SF program.

The sample consisted of 63% males and 85% African Americans, with ages ranging from 6 to 12 (average age was 8.8). Due to dropout and missing information, the total number in the sample for analysis was 96.

Procedures. The participants came from nine sites in North Carolina – seven after-school programs such as the YMCA and the Boys and Girls Club, and two school sites where children were drawn from nonacademic classes. The MC program requires a mixture of targeted/high risk children and prosocial children (Fraser et al., 2004). To accomplish this, teachers referred both groups of children to the program, using the definitions below. The prosocial peers were recruited for the intervention group after targeted children had been randomized to intervention and control groups. Practitioners were asked to complete a treatment integrity form to track program implementation fidelity and provide feedback to be used in revising the manuals, but forms were not

completed for all sessions. Research staff supervised practitioners who had education, psychology, and social work backgrounds.

Definitions used for targeted and prosocial children. Aggression and peer rejection were the criteria used by teachers to refer targeted children to the MC program. Aggression was defined as frequent hitting, arguing, defiance, or anger. Rejection by prosocial peers was defined as not being liked by, or isolated from classmates (Fraser et al., 2004). Students who were designated as being prosocial “were on grade level for their age, demonstrated appropriate social skills, and had consistent attendance in school” (Fraser et al., 2004, p. 317). While prosocial peers were nominated for the intervention group to ensure heterogeneity, outcomes were only measured for targeted students.

Measures used to collect data and operationalize variables. The Carolina Child Checklist-Teacher Form (CCC-TF), developed by Macgowan, Nash, and Fraser, (2002), was used to assess prosocial behavior, emotional regulation, social contact, cognitive concentration, RA and authority acceptance (subscales of the CCC-TF). This measure contains a revised version of the Relational Victimization subscale of the Social Experience Questionnaire to assess RA (Crick & Grotpeter, 1996). RA as an outcome measure was operationalized using the following components: “yells at others, teases classmates, excludes other kids from peer group, lies to make peers dislike, tells peers he or she will not like them unless they do what he or she says, stubborn, says mean things about others, and excludes other kids from games or activities” (Fraser et al., 2004, p. 318). In previous studies, the CCC-TF had an overall Cronbach’s alpha value of .95. For this study, the Cronbach’s alpha values ranged from .82 to .95 for the CCC-TF subscales mentioned at the beginning of this section. The Cronbach’s alpha value for RA was .91

(Fraser et al., 2004), indicating very high internal consistency reliability (Rubin & Babbie, 2011). The CCC-TF was given as a pretest and a posttest.

Analysis and Outcomes. Multivariate general liner modeling or multiple analysis of variance was used to test differences between intervention and control groups for targeted children, after controlling for site and race/ethnicity at pretest. Testing each outcome (dependent variable) separately, significant posttest differences were found between the intervention and control groups on all outcomes except authority acceptance. Children in the intervention group were rated by teachers as more likely to make more social contacts with peers, demonstrate more prosocial behavior, and less likely to avoid social contact and play alone. They were also rated as showing more skill in emotional regulation: appropriately expressing emotions, controlling anger and calming themselves down when excited. Children in the intervention group showed increases in cognitive concentration, e.g., paying more attention, staying on task longer, working harder, and completing more assignments. Concerning RA, teachers rated children in the intervention group at posttest as less likely to yell at peers, tease peers, tell lies or say mean things about peer and exclude peers compared with the control group. The authors (Fraser et al., 2004) stated that the decrease in RA is consistent with research that shows that there is a strong relationship between RA and SIP deficits, such as emotional regulation (Crick, Grotpeter, & Bigbee, 2002). Overall, the effect of the intervention was large. Univariate effect sizes for the significant effects of prosocial behavior, emotional regulation, social contact, cognitive concentration and RA were medium (Fraser et al., 2004).

Strengths of the study include the use of theory concerning SIP and the use of the highly reliable Carolina Child Checklist-Teacher Form (CCC-TF). A limitation is that the MC program was used in combination with the SF program, so it could not be determined which outcomes were associated with which program.

Steps to Respect

Description and Participants. *Steps to Respect* is an 11-session (50 minutes each) school-wide bullying prevention program that typically lasts 12 weeks; it is designed for students in grades three to six, and targets malicious gossip, social exclusion and physical aggression. The program has both school-wide and classroom-level components. In the school-wide component, teachers and staff are trained to develop and reinforce anti-bullying policies, monitor students' ethical behavior and effectively intervene in bullying situations. In the classroom component, students are trained in social skills and in the role of bystanders in bullying situations. Specifically, the classroom lessons are designed to accomplish the following: 1) educate students about different forms of bullying (i.e., face-to-face vs. behind-the-back); 2) set clear expectations regarding respectful behavior and responses to bullying that are nonaggressive; 3) train students to be assertive, show empathy and regulate their emotions; and 4) provide opportunities for students to practice friendship and conflict resolution skills (Low et al., 2010).

In the classroom component, both individual and group characteristics are targeted. For example, lessons targeting individuals teach prosocial alternatives to aggressive responses to bullying, i.e., defending oneself or others assertively, resolving conflict without aggression, and reporting incidents of bullying. Lessons targeting peers

train bystanders to resist aiding aggressors, to befriend victims, and discourage friends from engaging in bullying behavior (Low et al., 2010).

Even though the program can be implemented at the school level, Low et al. (2010) conducted a year-long randomized controlled trial of 544 students in grades three to six from six elementary schools in the Pacific Northwest. Schools within two suburban school districts were matched for district, size, ethnic breakdown and percentage of children receiving reduced or free school lunch. One of each pair was randomly assigned to the intervention group and wait list control group respectively. Children were randomly assigned to 36 experimental and 36 wait-list control groups. There were 544 students in the sample, comprised of 50.7% males, 49.3% females, 70.0% European Americans, 12.7% Asian Americans, 9% African Americans, 7.0% Hispanic Americans, and 1.3% Native Americans. The researchers hypothesized that students involved in the program would show a reduction in both victimization and perpetration of gossip, and that student characteristics (beliefs about retaliation and perceptions about having supportive friends) would have a moderating effect on outcomes.

Specifically, the hypotheses in this study regarding normative beliefs and victimization by gossip were the following: 1) Children in the control group whose belief system endorses aggression at pretest will increase in gossip. 2) Children victimized by gossip in the control group will experience increased victimization if they strongly believed in retaliatory aggression in response to victimization. The hypothesis regarding supportive peers and victimization was that supportive friends of victimized children in the intervention group at the beginning of the school year will buffer these children from

continued victimization, if the peers are taught prosocial ways of supporting or defending them.

Definitions. Low et al. (2010), citing Crick & Grotpeter (1995), defined RA as, “The intent to harm or manipulate someone’s social relationships or social status” (Low et al., 2010, p. 536). This study focused on playground gossip. Gossip is considered an indirect form of RA (Archer & Coyne, 2005). Low et al. (2010) view gossip as a form of RA that occurs behind one’s back. They contended that RA in general, and gossiping in particular, are observable. Citing research that indicates that most aggression occurs in non-supervised, unstructured settings, the researchers decided to conduct observations of gossip on the playground, which is a natural environment. The definition of gossip used by observers in coding was “derogatory talk or labels applied to a third party” (Low et al., 2010, p. 542).

Low et al.'s (2010) study examined whether normative beliefs played a moderating role in gossip and victimization. They used Huesmann and Guerra's (1997) definition of a normative belief as “an individual’s own cognition about the acceptability or unacceptability of a behavior” (Low et al., 2010, p. 539).

Procedures. Students were observed for 2½ months in the fall and 2 ½ months in the spring. Between the observation periods, classroom sessions were implemented in January through March. There were 10 sessions in each observation period. Around 12 students from each class in grades 3 and 4 and 10 students from each class in grade 5 were randomly selected for observation on the playground. Coders spent time on the playground during the fall prior to data collection to minimize student reactivity to them during data collection. Students appeared to be nonreactive to the observers. Focal

children were observed for five minutes with continuous recording. Inter-rater reliability was .69, based on 15% of the sessions on a second-by-second basis. The researchers stated that the actual value could be higher, because they grouped all of the sessions together, rather than calculating the value for each event (Low et al., 2010).

Students were also surveyed about their beliefs concerning retaliation. The survey was administered orally by a research assistant at two time points: mid-November and early May. Between the pretest and posttest, data were collected on program implementation fidelity on a bi-monthly basis by program consultants. Based on 50 observation sessions, completion of learning objectives was rated at 91%, and lesson quality was deemed slightly above average (Low et al., 2010).

Measures used to collect data and operationalize variables. Researchers used two scales from the Student Experience Survey: What School is Like for Me (Frey et al., 2005): the Supportive Friends scale (three items) and the Beliefs Endorsing Retaliation scale (seven items). For the first scale, the Cronbach's alpha value for internal consistency reliability was .76 at pretest and .80 at posttest. For the second scale, the Cronbach's alpha value for internal consistency reliability was .86 at pretest and .88 at posttest.

Analysis and Outcomes. Low et al. (2010) calculated hourly rates of gossip using change scores and found the following descriptive results about the participants and gossip over the course of the school year: 1) girls were more likely to both engage in gossip and be the victims of gossip than boys ($p < .01$); 2) older students (grades 5 & 6) were also more likely to both engage in gossip and be the victims of gossip than younger students (grades 3 & 4, $p < .01$); and 3) students were more likely to be both perpetrators

and victims (24.4%), or not be involved in gossip at all (39.3%) rather than only be targets (20.4%) or perpetrators (15.8%).

The researchers analyzed pretest and longitudinal data using hierarchical mixed models in SPSS to adjust for shared error among classmates: individual students (level 1) were nested within classrooms (level 2, with each level having a random effect). Due to the low sample size of schools, there was not enough power to conduct analyses at the school level. The authors reported mixed results of the intervention. Students in the intervention group who engaged in gossip in the fall showed significant reductions in the spring. However, the intervention did not have a significant effect on victimization. The victimization of girls increased over the school year as compared to boys. Results of the analysis of the contribution of retaliatory beliefs showed increasing victimization among control group students who had been previously victimized. This increase did not occur among students in the intervention group who had been previously victimized. Analysis of the contribution of supportive friends on victimization showed that students in the intervention group who had supportive friends in the fall did show significant reductions in victimization in the spring.

The researchers pointed out that the difference between the intervention and control groups on gossip reduction was substantial. They indicated that the belief scale they used (Beliefs Endorsing Retaliation scale) may have been too broad and not precise enough to predict gossip.

Implications

Of the four programs discussed above, one is a school-wide program and two are classroom-based prevention programs. The intensity, or dosage, of the programs varied,

with length of implementation ranging from six weeks to three years. As a whole, the studies indicated that RA behaviors can be reduced, but that this construct may be less sensitive to intervention effects than are interventions designed to reduce physical aggression. Most studies did not have enough power of to detect significant differences. This can be corrected with a power analysis before conducting studies (to be discussed further in chapter six). All of these programs were primary prevention programs implemented in the classroom setting primarily in the United States. Since research on RA is still in its infancy (Walker, 2010), more longitudinal studies are needed to ascertain long-term effectiveness of programs. Qualitative studies are also needed to understand the thinking processes of relationally aggressive children, the experiences of students victimized by RA, and the role of school culture in strengthening or weakening students' use of RA. A substantial need exists for programs to also target the influence of home-based factors such as parent-child interactions and siblings who display relationally aggressive behavior. Additionally, secondary and tertiary prevention efforts that target children who are at risk or already displaying RA behavior are needed. Research can be helpful as policymakers determine whether RA is a priority for school programming.

One area of research interest involves interventions that target children with moderate to severe aggressive symptoms (Dailey, Frey, & Walker, 2015). For example, it would be interesting to examine effects of existing programs known to be effective with children having moderate to severe behavior problems, such as the *First Step to Success* program (Walker et al., 1998; Walker et al., 2009) in reducing levels of RA in young children. As mentioned earlier, Preschool First Step (PFS) has been efficacious in reducing challenging behaviors of young children at school by increasing pro-social

behaviors that are needed for academic success (Feil et al., 2015). Similarly, this intervention was also shown to be efficacious with a subsample of young children from the original study who were at risk for developing Autism Spectrum Disorders (ASD; Frey et al., in press). The current study sought to determine whether this broad-based intervention could potentially benefit preschool children by conducting an analysis of RA levels in young children, using existing data from the larger study (Feil et al., 2015). Specifically, this study was interested in the following research questions: 1) Is the PFS intervention efficacious in reducing RA? 2) Do the effects of the PFS intervention differ for children with elevated levels of RA? Chapter four provides details of the method employed.

CHAPTER IV

METHOD

Purpose and Research Questions

As stated previously, the purpose of the current study is to examine the potential efficacy of a broad-based intervention in reducing levels of RA in young children. Specifically, this study examines the RA levels of preschool children and reports pre- and post-intervention RA outcomes, collected as part of year 3 of the randomized efficacy trial of Preschool First Step (PFS; Feil et al., 2015). The research questions are as follows: 1) Is the PFS intervention efficacious in reducing RA? 2) Do the effects of the PFS intervention differ for children with elevated levels of RA?

This chapter is divided into two major sections: a description of the original PFS efficacy trial (participants, research design, procedures, measures, intervention, analysis, attrition, missing data and results), and a description of the proposed study (research questions, and measures).

The Preschool First Step Efficacy Trial

In this section, the efficacy trial is described. Additional details can be found in Feil et al. (2015).

Participants

Participants for the original study consisted of 126 child-parent-teacher triads who participated in a randomized controlled trial of the preschool version of *First Step to Success* (Feil et al., 2015). Participants in these triads came from Head Start and preschool programs at multiple sites: three counties in Oregon, one county in Kentucky and one county in Indiana. In each participating classroom, one child who displayed elevated problem behaviors - based upon teacher-report - was recruited and consented for participation in the large efficacy study. Participating children were randomly selected from three cohorts from 2009 through 2012. They were primarily Caucasian (44%) or African American (31%). Participating teachers were predominantly female (99%) and were either Caucasian (72%) or African American (18%). They reported having taught an average of 14 years (SD = 9.2). Teachers' education levels varied, with 22% reporting a high school diploma, 33% an Associate's degree, 23% a Bachelor's degree, and 22% a Master's degree or higher.

Research Design

As can be seen in Figure 1, two yoked randomized controlled trials were conducted simultaneously across two sites in Oregon and Kentucky from 2009 to 2013. Teachers from 149 Head Start, state-funded, tuition-based and private preschool classrooms were invited to participate in the study. In fall 2009 (year 1), First Step project staff consented teachers from 20 classrooms in Oregon and 35 classrooms from Kentucky to participate in the study. In fall 2010 (year 2), teachers from 29 classrooms in Oregon and 21 in Kentucky consented to participate. In fall 2011 (year 3), staff consented teachers from 19 classrooms in Oregon, 19 in Kentucky and 6 classrooms in

Indiana. A total of 138 out of 149 consented teachers (92.6%) participated in the screening and student recruitment phase of the study. After screening, seven teachers declined to continue participation in the study, and parents of all of the eligible students in five additional classrooms declined consent. Therefore, 126 of the 149 recruited classrooms (85%) remained, with one student and one teacher from each classroom being randomized to either a PFS intervention or usual-care control group condition. Figure 1 provides an overview of participation in the recruitment, screening, randomization and data collection phases of the study (Feil et al., 2015).

[Insert Figure 1 here]

Sampling Procedures

Using an adapted version of the *Early Screening Project*, a multi-stage behavioral screening tool (ESP; Walker, Severson, & Feil, 1995), children with externalizing behavior problems were identified. At stage one, teachers identified and rank-ordered five children in their classroom who most closely met the description of externalizing behavior in ESP. At stage two, teachers completed three ESP scales for each child identified in stage one: the Adaptive Behavior Index (ABI), the Maladaptive Behavior Index (MBI), and the Aggressive Behavior Scale (ABS). First Step staff then scored the scales, converted raw scores to severity scores and then rank-ordered the five children in each classroom according to severity. Parents of the highest-ranked child were invited to participate in the study. If they declined, parents of the next highest ranked child were contacted. This procedure continued until staff either obtained parental consent for one of the highest-ranked children or all parents of all eligible children declined participation.

Procedures

Sixty-one (61) children in the study were randomized to the usual-care control group and 65 were randomized to the intervention group. Teachers from both groups received a half-day training covering classroom management strategies and positive behavior support strategies (Sprague & Golly, 2013). In addition, teachers from the intervention group received a half-day training in the PFS intervention and one-on-one consultation and support from a behavioral coach who helped them implement the intervention. The coach also worked with parents of children in the intervention group during six to eight weekly sessions to promote their child's academic success by reading, discussion, role-plays and demonstrations.

Participating behavioral coaches (eight at each site) were employed by either Oregon Research Institute or the University of Louisville. All coaches had earned a bachelor's degree or higher. They received intensive training on implementing the First Step intervention in a two-day session. Lead implementation staff met weekly with coaches to discuss and troubleshoot cases. Lead staff also frequently monitored the coaches with fidelity checks to ensure adherence to program implementation guidelines and high quality (Feil et al., 2015).

Measures

Teachers and parents of participating children completed baseline questionnaire packets before receiving training and prior to randomization of children to usual-care control and intervention groups. Teachers and parents of children randomized to the intervention group also completed a post-intervention questionnaire. Each child in the usual-care control group was yoked to a child in the intervention group with comparable

externalizing behavior levels as indicated by the ESP. This was done to approximate the same amount of time between baseline and post intervention data collection. The two groups did not differ on the mean number of days between baseline and post-intervention data collection ($t[122] = 0.87, p = .386$). For students in the intervention group, post-intervention packets were collected an average of 128 days ($SD = 28.6$) after baseline data collection; for students in the usual-care group, packets were completed an average of 133 days ($SD = 28.6$) after baseline data collection. Table 3 summarizes the measures used, and schedule of administration, in the large efficacy study (Feil et al., 2015).

[Insert Table 3 here]

Intervention

First Step to Success is a collaborative home and school intervention designed for children who are at risk of academic failure to get off to a good start in school (Walker et al., 1997, 1998). It targets children who are not ready to learn, who often have accompanying challenging behaviors. The child's teacher, parent(s) and the First Step coach work in partnership with each other to teach him/her skills needed to be successful in school such as following the teacher's directions, completing assigned work, and getting along with peers. PFS was adapted from the elementary school version of First Step and is implemented in Head Start and preschool classrooms. The components of PFS are (1) screening (described in the Procedures section above), (2) school and (3) home. Together, these components take about three months to implement.

The school component is based on a game called, "Green Card, Red Card." The card is green on one side and red on the other side. The target child and the class are taught that green indicates positive feedback for appropriate behavior such as following

directions or prosocial interactions with peers. Red provides non-verbal feedback that the target child needs to change his/her behavior. The game begins with a 20-minute timeframe and is gradually extended to the entire school day. Initially, the coach (a PFS staff member) monitors the child's behavior with the green or red card, and is in close proximity to the child. There are a pre-determined number of points that the child can earn each day. One point can be earned at selected intervals, e.g., every 30 seconds initially. If the target child earns 80% or more of the possible points for that day, a brief rewarding activity (pre-selected by the target child in conjunction with the teacher) is immediately done in which the child and the class participate. The coach sends a note home communicating the child's success with the game and the parents are asked to provide additional reinforcement by providing a rewarding activity immediately at home. If the child does not earn the required number of points for that day, that program day is repeated the next day.

Within the school component are the coach phase, the teacher phase and the maintenance phase. The coach implements the intervention from days 1-10, and the teacher implements the program from days 11-20, with close supervision and support from the coach. The maintenance phase lasts from days 21-30 where the game is phased out and is replaced with adult recognition for points. The amount of daily feedback is also reduced, with occasional rewards given when the target child demonstrates exemplary performance. Rewarding activities are primarily replaced with praise and recognition from the teacher, school peers, and parents at home. A total of 30 program days is typically required for successful completion of PFS.

The home component is comprised of six lessons conducted by the coach with the parent(s) in the home. The lessons cover 1) communication, 2) cooperation, 3) limit setting, 4) problem solving, 5) friendship-making, and 6) confidence building. These lessons reinforce the prosocial skills that are being taught by the PFS coach and the teacher at school. Parents, supervised by the PFS coach, teach these skills to the child at home.

Analysis

Data for the full efficacy trial were analyzed with a series of estimated linear regression models using Mplus 6.0 statistical software (Muthèn & Muthèn, 1998-2010; (Feil et al., 2015). Two covariates were used for the regression of each outcome: a dichotomous variable indicating intervention condition (1 = intervention, 0 = control) and the baseline value of the outcome. The baseline value of each outcome was centered (i.e., the sample mean was subtracted from each observed value) to aid with interpretation and calculation of covariate-adjusted, post-intervention means. Preliminary models that included the two covariates and an interaction term (i.e., intervention condition x baseline value of the outcome) were estimated for each outcome to test that the slopes of the regression lines were equivalent for each group. Hedges' g was used as a measure of effect size. It was calculated by taking the difference between the mean outcome of each group and dividing it by the pooled within-group standard deviation (What Works Clearinghouse, 2011). An effect size of .2 is considered small, an effect size of .5 is considered medium and an effect size of .8 is considered large. To correct for multiple comparisons, the Benjamin-Hochberg correction was applied to outcomes that were statistically significant (B-H; Benjamin and Hochberg, 1995). In order to calculate a B-H

correction, statistically significant outcomes are ranked in ascending order within domain based on p-values and a cutoff for each is calculated. Rank-ordered intervention effects for the three outcomes in the pro-social domain were considered significant at a .05 alpha level if p-values were less than .017, .033, and .05, respectively. For the problem behavior domain, including four outcomes, rank-ordered intervention effects were considered significant at a .05 level if p-values were less than .013, .025, .038, and .05. *What Works Clearinghouse* (WWC) *improvement* index was used as a measure of practical significance. In addition, preliminary models were developed that included an interaction term between intervention condition (i.e., intervention or control group) and site (i.e., Oregon and Kentucky/Indiana). These models tested whether the program site moderated program effects.

The calculation of the WWC improvement index consisted of two steps: First, the effect size estimate is converted to a Cohen's U_3 index using a standard normal distribution z-score table. Second, the U_3 index – representing the percentile rank of an average student from the PFS intervention group in the distribution of the control group – is subtracted from 50% - the percentile rank of the average student in the control group. The improvement index was interpreted as the change in percentile rank that was expected for an average control group student if he or she had received the PFS intervention.

Attrition

Of the 126 classrooms participating in the study, PFS staff collected baseline packets from 125 teachers (99.2%) and 120 parents (95.2%). After the intervention, 124 teachers (98.4%) and 114 parents (90.5%) completed their questionnaires. At the scale-

level, rates of missing data ranged from 0.8% to 4% for teacher-reported outcomes and from 7.1% to 8.7% for parent-reported outcomes. At post-intervention, the percent of missing data ranged from 1.6% to 4.8% for teacher-reported outcomes. Missing data were found for 10.3% of parent-reported outcomes at post-intervention (Feil et al., 2015).

Missing Data

Researchers used the full information maximum likelihood (FIML) estimator in MPlus 6.0 to handle missing data in the regression models. This estimator uses all available data to calculate unbiased parameter estimates and standard errors and is considered a cutting edge technique for addressing missing data (Schafer & Graham, 2002). In order to improve the FIML estimation's accuracy, eight auxiliary variables were included in the regression models as potential correlates of missing data: 1) child's SSBD rank, 2) child's sex, 3) Spanish-speaking parent, 4) current marital status, 4) parent's education level, 5) estimated annual household income, 6) estimated annual household income, 7) number of children in the household, and 8) parental distress as reported on the Parenting Stress Index – Short Form (PSI-SF; Abidin, 1995). Since there was a higher rate of missing data from parents, researchers included auxiliary variables in the models which have demonstrated to be predictive of subsequent dropout from the study (Beauchaine, Webster-Stratton, & Reid, 2005; Herman et al., 2012; Reinke et al., 2012) and which indicate higher levels of stress in families or might be considered as potential barriers between families and research staff (e.g., Spanish-speaking participants). Inclusion of these variables is recommended as part of an overall analysis strategy since they increase statistical power, reduce bias, and improve the plausibility

that the data were missing at random without altering the interpretation of parameter estimates (Collins, Schafer, & Kam, 2001; Enders, 2010).

To test the assumption that the data were missing completely at random (MCAR), a two-step approach was used. First, patterns of missing data were examined using Little's MCAR test, which is a global test of MCAR. However, since this test had low power to detect differences between intervention and control groups, it was susceptible to Type II errors (Enders, 2010), meaning that it could fail to find an effect that actually exists (Meyers, Gamst, & Guarino, 2006). PFS researchers conducted univariate t-tests for continuous variables and contingency table analysis for categorical variables in order to assess, for each outcome, whether cases with missing data differed from those without on other variables such as program condition (intervention or control group), child and parent demographics, and baseline values on screening and outcome measures. Little's MCAR test was non-significant ($\chi^2 = 212.45, p = .200$) and none of the tested variables showed significant association with missing data groups, indicating that the data were MCAR (Feil et al., 2015).

Results

Baseline equivalence. To evaluate whether intervention and control groups were equivalent at baseline, Feil et al. (2015) compared the groups on seven outcome measures at baseline and on child, parent and teacher demographics at baseline. The PFS intervention group and the control group did not differ significantly on parent demographic measures, i.e., percent living in a two-parent household (27% vs. 26%), number of children in the household ($M[SD] = 2.3[1.2]$ vs. $2.5[1.3]$), percent with a bachelor's degree or higher (13% vs. 11%), or levels of parental distress ($M[SD] =$

24.8[9.9] vs. 26.7[12.0]). The intervention and control groups also did not differ on teacher and classroom characteristics such as teachers who had earned a bachelor's degree or higher (36% vs. 45%), the number of years teaching ($M[SD] = 12.8[8.8]$ vs. $16.0[9.6]$), and the number of early childhood personnel in the classroom ($M[SD] = 2.3[1.0]$ vs. $2.3[1.7]$). However, the intervention and control groups differed on one child characteristic, i.e., the percentage of Hispanic/Latino children (7% vs. 23%). See Table 4 for child baseline demographic characteristics in both groups.

[Insert Table 4 here]

Posttest differences on outcome measures. The models that were developed to test whether the site (Oregon or Kentucky/Indiana) moderated program effects were non-significant. In addition, the slopes of the regression lines for all models were equivalent for the intervention and control groups. For the prosocial behavior domain, there was a statistically significant difference between the PFS intervention group and the control group at posttest intervention concerning improved social functioning on the three parent- and teacher-reported outcomes. Hedges' g effect sizes for the three pro-social outcomes ranged from .29 to .88. In the problem behavior domain, children in the PFS intervention group showed significant reductions for all four outcomes across both school and home settings compared to the control group. The Hedges' g effect sizes for the four outcomes ranged from .45 to .79. As was mentioned in the analysis section, the B-H correction was applied to statistically significant outcomes to correct for multiple comparisons. When applying this correction to the three outcomes in the prosocial domain, it requires that rank-ordered, statistically significant outcomes remain significant at the .05 level if p -values are less than .017, .033, and .05. For the four outcomes in the problem behavior

domain, the B-H correction requires that rank-ordered statistically significant outcomes remain statistically significant at the .05 level if p-values are less than .013, .025, .038, and .05, respectively. After applying the B-H correction using these criteria, all seven outcomes remained statistically significant at the .05 level. See Table 5 for a comparison of baseline and post-intervention outcomes.

[Insert Table 5 here]

The Relational Aggression Analysis (Current Study)

The purpose of this study is to examine the potential efficacy of a broad-based intervention (First Step to Success) for reducing RA in young children with challenging behavior by examining existing data from the PFS efficacy trial (Feil et al., 2015). Specifically, this study examines the RA levels of preschool children and reports pre- and post-intervention RA outcomes, collected as part of year 3 of the randomized efficacy trial of PFS. The research questions are as follows: 1) Is the PFS intervention efficacious in reducing RA? 2) Do the effects of the PFS intervention differ for children with elevated levels of RA?

Outcome Measure

Preschool Social Behavior Scale (PSBS). The PSBS exists in two forms: the PSBS-TF (teacher form) and the PSBS-PF (peer form). Both were developed by Crick et al. (1997). The 19-item PSBS-TF is a rating scale that assesses RA (6 items), overt aggression (6 items), prosocial behavior (4 items), and depressed affect (3 items). The developers of this instrument found all subscales to be reliable with Cronbach's alpha values of .96, .94, .88 and .87 respectively. Responses for each item vary from 1 (*never or almost never true*) to 5 (*always or almost always true*). There were 65 preschool

participants in the study where Crick et al. (1997) developed this instrument. The 6 RA items from the PSBS-TF are provided in Table 6.

[Insert Table 6 here]

This chapter has presented an overview of the PFS efficacy trial, the purpose of the current study and the research questions for this study. In the next chapter, the results of the study are presented.

CHAPTER V

RESULTS

Introduction

In this chapter, the sample for the current study is described, and the results for each research question are presented.

Sample

The PSBS-TF was only administered during year 3 of the PFS efficacy trial. Thus, the sample size for the RA study (year 3) was based on participants from the third year only. As can be seen in Table 7, the sample for this study consisted of 41 children. Of these, 17 (41.5%) were female and 24 were male (58.5%). The mean age of the children in the study was 4.2 years (SD = 0.4). Ethnically, there were 11 (26.8%) African Americans, 2 (4.9%) American Indians or Alaskan Natives, 21 (51.2%) Caucasians, and 4 (9.8%) more than one race. Of the 41 children in the study, 20 were randomized to the control group, while 21 were randomized to the intervention group. Independent samples t-tests were performed to determine whether there were significant differences between control and intervention groups at baseline for demographic characteristics. No statistically significant differences were found, suggesting that control and intervention groups in this study were equivalent at baseline.

[Insert Table 7 here]

Statistical Analysis

Research Question #1: Is the PFS intervention efficacious in reducing RA?

It was hypothesized that following the intervention, children in the intervention group would have lower RA levels compared to the control group, controlling for baseline RA levels. Prior to answering this question, independent samples t-tests were performed to determine whether there were significant differences between control and intervention groups on outcome measures, including the PSBS-TF, at baseline. As can be seen in Table 8, all t-tests were non-significant, indicating baseline equivalence between control and intervention groups on all outcome measures, including the PSBS-TF ($p = 0.59$).

[Insert Table 8 here]

This question was answered in two parts. First, an Analysis of Covariance (ANCOVA) was performed to test for differences in the post-intervention mean scores of the intervention and control groups on the RA subscale of the PSBS-TF, controlling for baseline PSBS-TF scores. The 95% confidence intervals (CIs) for the group means were also calculated. Partial eta squared (η^2) was used to measure the size of the effect. According to Cohen (1973), partial eta squared partials out all of the non-error sources of variance in the dependent variable: $\eta^2 = SS_{\text{between}} / (SS_{\text{between}} + SS_{\text{error}})$. In this equation, partial eta squared represents the proportion of variance explained by a given independent variable, where the denominator includes only variance related to that variable and error (i.e., variance attributable to other independent variables is excluded). Suggested benchmarks for the magnitude of the effect are 0.01 for a small effect, 0.06 for a medium effect, and 0.14 for a large effect (Cohen, 1988; Richardson, 2011).

Results of the analysis showed that the mean of the intervention group was 10.30 (SD = 5.27) and the mean of the control group was 12.18 (SD = 5.81). This difference was not statistically significant ($F(1, 39) = 1.50; p = .23$), with a small effect size ($\eta^2 = .038$) and 22.3% observed power. The CI for the intervention group mean contained values from 8.14 to 12.47, and the CI for the control group mean contained values from 9.96 to 14.40. Thus, the null hypothesis of no mean differences in post-intervention RA scores between groups could not be rejected. The ANCOVA results are summarized in Table 9.

[Insert Table 9 here]

Second, a responder analysis was conducted using Jacobson and Truax's (1991) Reliable Change Index (RCI). Their definition of clinically significant change is based on two criteria: 1) the magnitude of the change (i.e., the RCI) and 2) the level of functioning (based upon movement across the PSBS RA subscale cutoff score delineating normative and dysfunctional subsamples). The RCI allows researchers to determine whether the change in an outcome is statistically reliable (not due to error). If an RCI score is greater than 1.96 (or less than -1.96 depending on the outcome), the change can be considered statistically reliable. The RCI is calculated by computing the difference between observed baseline and post intervention scores and dividing by the standard error of measurement:

$$RCI = \frac{x_2 - x_1}{S_{diff}}$$

where x_2 = the post intervention score, x_1 = the baseline score, $S_{diff} = \sqrt{2(S_E)^2}$, and $S_E = SD\sqrt{1 - r}$.

Jacobson and Truax (1991), recommend three cutoff options, depending upon the availability of normative data and the distribution of the sample, to determine level of functioning. Since normative data are not available for the PSBS-TF, a cutoff score was selected based on the existing literature. Specifically, Crick et al. (1997) used one SD above the sample mean as their cutoff between “aggressive” and “nonaggressive” categories in their development of the PSBS-TF. In the current study, the cutoff for RA post-intervention scores on the PSBS-TF was calculated to be 8.89. Children with scores below 8.89 were identified as “functional” (i.e., normative range), and those with post-intervention scores at or above 8.89 were determined to be “dysfunctional.”

Together, the RCI and the cutoff score were used to classify children into one of four categories at post-intervention (Jacobson, Roberts, Berns, & MClintchey, 1999): 1) *responded* (they moved into the normative range and had an RCI that was greater than 1.96, which is considered clinically significant change); 2) *improved* (they did not move into the normative range but had an RCI that was greater than 1.96); 3) *unchanged* (they did not meet the RCI criterion); and 4) *deteriorated* (the RCI criterion was met in the negative direction, i.e., RCI was less than 1.96). It was believed that observing more children in the intervention group categorized as 1s and 2s, and more children from the control group as 3s and 4s would be an indicator that the intervention was effective for reducing RA levels among a sample of children from year three of the efficacy trial.

As can be seen in Table 10, five children had post-intervention scores that placed them in category one (clinically significant change) compared with three in the control group. Four children in the intervention group improved (category two), compared to five in the control group. Eight children in the intervention group were unchanged

(category three), compared with four in the control group. Four children in the intervention group deteriorated (category four), compared with eight in the control group (See Appendix B for each child's post-intervention assessment of change). Together, categories one and two indicate that nine children in the intervention group either made clinically significant change or improved, compared with eight in the control group. When considering categories three and four together, both intervention and control groups had 12 each in these two categories. However, eight of the 12 in the intervention group were unchanged, compared with four in the control group; while four of the 12 in the intervention group deteriorated, compared with eight in the control group. It is interesting to note that twice as many children in the control group deteriorated at post-intervention compared to the intervention group.

[Insert Table 10 here]

Research Question #2: Do the effects of the PFS intervention differ for children with elevated levels of RA?

It was hypothesized that the effects of the PFS intervention differ for children with elevated levels of RA. A two-way between subjects Analysis of Variance (ANOVA) was conducted to assess the following: a) whether students' RA level (low, high) had a significant effect upon their RA change score (the difference between the post-intervention and baseline RA scores); b) whether the study condition (control/intervention) had a significant effect on RA change score; and c) whether there was a significant effect of the interaction between students' RA level and study condition (control/intervention).

Based upon their scores on the PSBS-TF at baseline, students were categorized as having low or high levels of RA. Students' scores that were below the sample mean of 14.00 at baseline were placed in the low level RA category, while students' scores that were above the mean of 14.00 were placed in the high RA level category. The two-way between subjects ANOVA was conducted with two levels of RA (low, high) and two levels of study condition (control, intervention). The main effect of RA level showed that children in the high RA group ($M = -7.29$, $SE = 1.22$) had significantly larger RA change scores than children in the low RA group ($M = 1.98$, $SE = 1.250$), $F(1,37) = 28.27$, $p = 0.000$; partial $\eta^2 = 0.43$), indicating a very large effect with 99.9% observed power. The main effect of study condition showed that children in the intervention group ($M = -3.61$, $SE = 1.215$) had larger RA change scores than those in the control group ($M = -1.702$, $SE = 1.250$), but the difference between the two groups was not significant ($F(1,37) = 1.20$, $p = 0.281$; partial $\eta^2 = 0.03$), indicating a small effect with 18.7% observed power. The interaction effect between RA level and study condition was not significant, ($F(1,37) = 0.03$, $p = 0.859$; partial $\eta^2 = 0.001$), indicating a very small effect with 5.3% observed power. Thus, the null hypothesis was rejected for the main effect of RA level, but could not be rejected for the main effect of study condition and the interaction effect between RA level and study condition. The ANOVA results are summarized in Table 11.

[Insert Table 11 here]

In summary, for question one, "Is the PFS intervention efficacious in reducing RA?", the ANCOVA analysis showed that post-intervention differences in RA levels between the intervention group and the control group were not significant. The responder analysis showed that one more student in the intervention group made clinically

significant change or improved than in the control group. The number of children who were either unchanged or deteriorated was the same in both control and intervention groups, although more children were unchanged in the intervention group and twice as many children in the control group deteriorated.

In answer to question two, “Do the effects of the PFS intervention differ for children with elevated levels of RA?”, the mean RA change scores were significantly larger and in the opposite direction in high RA compared to low RA children. No significant interaction between RA level and study condition was found.

In the next chapter, this study’s implications and limitations will be presented, along with suggestions for future RA research.

CHAPTER VI

DISCUSSION

In this final chapter, support or nonsupport of the hypotheses will be presented, along with implications, limitations and suggestions for future research. This study sought to determine whether a broad-based intervention, PFS, could potentially reduce preschool children's levels of RA. Specifically, there were three hypotheses for two research questions. For question one, it was first hypothesized that children in the intervention group would have lower RA levels compared to the control group, after controlling for baseline RA levels. Results showed that this hypothesis was not supported. While the mean score of the intervention group was lower than the control group at post-intervention, the difference was not significant, the effect of the intervention was small, and the power to detect this difference was very low.

The second hypothesis was also related to the first research question. It was hypothesized that more children in the intervention group would make clinically significant change or improve compared to those in the control group, and that more children in the control group would either not change or deteriorate than those in the intervention group. A responder analysis was conducted, using Jacobson and Truax's (1991) criteria for change (the magnitude of the change using the RCI, and the categorization into normative or dysfunctional functioning based upon a PSBS-TF cutoff score). Children's RA levels were classified in one of the following categories (See Jacobson, Roberts, Berns, & MClinchey, 1999): 1) *responded* (they moved into the

normative range and had an RCI that was greater than 1.96); or 2) *improved* (they did not move into the normative range but had an RCI that was greater than 1.96); 3) *unchanged* (they did not meet the RCI criterion); and 4) *deteriorated* (the RCI was met in the negative direction, i.e., RCI was less than 1.96). Results showed that nine children in the intervention group either made clinically significant change or improved, compared with eight in the control group. While the number of children who were either unchanged or deteriorated was the same in both control and intervention groups, it is important to note that twice as many children in the control group deteriorated, compared to those in the intervention group. The hypothesis is therefore supported, and suggests that 1) researchers should conduct analyses at the case level and not just the group level, 2) researchers should look beyond statistical significance to clinical significance (This will be discussed below), and 3) PFS may be a promising intervention to address RA.

For question two, it was hypothesized that the effects of the PFS intervention differ for children with elevated levels of RA. Results indicated that children in the high RA level group had significantly larger RA change scores than those in the low RA level group. While this suggests that children with high levels of RA benefitted more from PFS than children with low levels of RA (thus supporting the hypothesis), two things must be taken into consideration: First, since the PSBS-TF does not have norms, the classification of “high” and “low” RA levels is arbitrary. It is not known how children in this sample compare to other children nationwide. It is likely that regression to the mean is a threat to internal validity associated with these findings; specifically, very high and very low scores tend to regress to the mean, or move towards the middle, upon retesting.

It is important to locate the results of this study within the context of existing RA research. First, this study is similar to several studies in that some hypotheses were supported and others were not. Additionally, low power has been a theme in the existing RA literature base. For example, in the study of the Early Childhood Friendship Project (Ostrov et al., 2009), reductions in RA, physical aggression, relational and physical victimization for the intervention group were not statistically significant. The researchers used effect size to evaluate the program because there was inadequate power for statistical significance testing (See below for a discussion of effect size and power). Harrist and Bradley's (2003) study of the "You can't say you can't play" non-exclusion rule in kindergarten found that, while children in intervention classrooms reported a significant difference liking specific peers, they also reported significant social dissatisfaction with peers in general. Additionally, change in behavior was nonsignificant, as indicated by observation and teacher report. The Making Choices and Strong Families Programs (Fraser et al., 2004) sought to interrupt developmental processes (such as SIP) in children who were at risk for conduct problems and peer rejection. Researchers found that children in the intervention group showed significantly less RA than the control group, with a large effect size for the intervention overall and a medium effect size for RA. The Steps to Respect Program (Low et al., 2010) is a universal elementary school prevention program that was found to be efficacious in reducing malicious gossip on the playground. However, the reduction in relational victimization was limited to students in the intervention group with supportive friends. This study provides another example of the difficulty identifying an intervention that is effective for addressing multiple indicators of effectiveness.

Second, this study was similar to many of the RA intervention studies conducted to date in that group analyses were performed. Yet, the current study was unique in that, in addition to group analyses, a responder analysis (consisting of the RCI and a cutoff for normative vs. dysfunctional populations) provided individual data on children's change – whether it was clinically significant, improved, unchanged, or deteriorated. As was mentioned previously, nine children in the intervention group either made clinically significant change or improved, compared with eight in the control group. While the number of children who were either unchanged or deteriorated was the same in both control and intervention groups, it is important to note that twice as many children in the control group deteriorated, compared to those in the intervention group. In practical terms, children who either made clinically significant change or who improved would have reduced their use of RA in the classroom, while children who deteriorated would have increased their use of RA in the classroom. It appears that PFS may have prevented some children from getting worse in their use of RA, a potentially critical finding that would not have been detected without having conducted the responder analysis. Information gained in this type of analysis is helpful to teachers and parents to sustain change in students who have improved and plan other strategies for students who are either unchanged or have deteriorated in their RA behaviors.

Third, this study represents only the second evaluation of an intervention to reduce RA that has a home component: the Making Choices and Strong Families Programs (Fraser et al., 2004). Strong Families is the home component that addresses coercive parenting and family stress. These factors are associated with conduct problems in children, particularly in low-income neighborhoods where there is violence, inadequate

housing and problems with health care access and quality (Capaldi, DeGarmo, Patterson, & Forgatch, 2002; Beyers, Loeber, Wikstrom, & Stouthamer-Loeber, 2001; Henry, D. B., Tolan, P. H., & Gorman-Smith, D., 2001). The interplay between environmental stressors and coercive parenting practices, such as harsh punishment, not setting limits and inconsistent intervention sometimes results in a “relationally coercive style of interaction” (Fraser et al., 2004, p. 314) and SIP deficits in young children which increase risks of early aggressive behavior and peer rejection. The Strong Families Program consists of 15 lessons on child development, parent-child communication, family problem solving and discipline. Interventions like Strong Families and PFS may want to consider teaching parents about RA, since parents tend to overlook RA behaviors in their young children and teach these behaviors to them through modeling (Casas et al., 2006).

Fourth, this study provides promising preliminary data that future researchers can use in designing studies where RA is the primary outcome variable. Although statistical significance was not achieved, the mean scores of children in the intervention group were lower than those in the control group, indicating movement in the correct direction.

Implications

The purpose of this study was to assess whether a broad-based intervention such as First Step to Success could be efficacious in reducing RA levels in preschool children. Even though statistical differences between control and intervention groups were not detected, one more child in the intervention group made “clinically significant change,” compared to the control group, meaning that the change between their pre- and post-intervention PSBS-TF scores was under the cutoff and they moved from the dysfunctional range to the normative range of functioning as indicated by the RCI

(Jacobson et al., 1999). For children who made clinically significant change in the intervention group, PFS was meaningful, possibly getting them off to a good start academically and possibly preventing long-term effects of RA such as peer rejection (Crick et al., 2006), friendship problems (Crick, 1996; Leff et al., 2010a), internalizing problems such as isolation, loneliness, anxiety and depression (Crick & Grotpeter, 1995; Desjardins and Leadbeater, 2011), poor academic performance, school avoidance and dropping out (Murray-Close & Crick, 2006). It is also possible that, if a broad-based intervention such as PFS were found to be efficacious in reducing RA, then children would report fewer incidents of being the subject of rumors, others trying to get them to do things they don't want to do, and being excluded from activities on purpose.

This study of First Step's potential efficacy for reducing RA levels in preschool children has implications for parents, students, teachers and policymakers. Since factors affecting the development of RA in young children include authoritarian and permissive parenting styles and siblings' use of RA, parents need to become aware that they create a home environment that either prevents, impedes or encourages RA in their young children. Taking RA seriously, discouraging its use by older siblings, increasing positive interactions with all of their children and modeling prosocial behaviors are key to minimizing RA when young children enter preschool. Parenting resources need to be readily accessible to parents so that they can learn child-rearing strategies that focus on rewarding appropriate behavior, ignoring minimal inappropriate behavior, teaching clear expectations, and setting and consistently applying clear consequences for major inappropriate behavior. RA interventions with a home component could be helpful in this regard.

Concerns have been expressed regarding the “school-to-prison pipeline” that exists for African American (particularly male) students (Christle, Jolivette, & Nelson, 2005; Marshall, 2012; Wald & Losen, 2003). Factors contributing to students’ involvement in the criminal justice system include academic failure, harsh school disciplinary policies and dropout (Christle et al., 2005). RA can lead to long-term consequences such as academic failure and dropout (Murray-Close & Crick, 2006). If a broad-based intervention that addresses RA by increasing prosocial skills is efficacious, either because it reduces existing RA symptoms or prevents the onset of them, this could be one component of a multi-faceted strategy to stem the tide that leads from school to prison.

There may be broader implications than potential benefits for African American male students. Efficacious, broad-based interventions could potentially alter the current trajectory of RA, so that it does not continue to increase through middle school and remain stable into adulthood. At-risk youth could potentially reduce, or even avoid displaying disruptive behaviors, and experiencing peer rejection, social maladjustment, depression and anxiety. If broad-based interventions that target children for whom externalizing behavior problems in general are not efficacious for reducing RA symptoms as initially designed, they could be modified to specifically address RA behaviors. This would take input from all those involved with the child: teachers, parents, school social workers, counselors, policymakers, and the community.

Limitations

This study had several limitations. First, children’s RA levels were assessed only in year three of the PFS efficacy trial. The sample size of the entire trial was 124,

compared with a sample size of 41 for year three alone, when the PSBS-TF was administered to collect RA data. Had the PSBS-TF been administered during the entire PFS efficacy trial, it is possible that statistical significance could have been achieved.

Second, since this study was limited to existing data from a sample of the original PFS efficacy trial, the study did not have enough power - “the ability of a test of statistical significance to detect differences in means (or other statistics) when such differences indeed exist” (Kerlinger & Lee, 2000, p. 453) - using parametric tests such as the t-test and ANCOVA/ANOVA. Only effect size (partial eta squared) could be used to assess the effect of the PFS intervention, which was small. It is recommended that researchers use power analysis software packages such as G*Power (Faul, Erdfelder, Lang, & Buchner, 2007; Faul, Erdfelder, Buchner, & Lang, 2009) that will calculate the required sample size for a prospective study when the type of statistical test, desired power level, significance level and effect size value are provided. Researchers are advised to obtain guidance on the appropriate type of effect size and values to enter for a prospective study (Nandy, 2012; Fritz, Morris, & Richler, 2012; Tabachnick & Fidell, 2007; Cohen, 1988).

Third, this RA sample analysis does not have flexibility - it is limited to the research design, measures, participants, and data collection techniques from the original study. Had the original study screened for RA, children with low levels of RA would not have been included in the sample.

Fourth, the PSBS-TF (Crick et al., 1997) does not have norms. Therefore, it was impossible to determine how children’s RA scores in this study related to children’s

scores nationwide. High and low scores could only be compared within the sample, but determining what was considered “high” and “low” was arbitrary.

Fifth, there were measurement limitations. For a teacher-reported preschool RA measure, the PSBS was the only one available. As indicated previously, Archer and Coyne (2005) list the following categories to measure RA: peer ratings, peer nominations, teacher ratings, self-reports, observations and other (interviews, qualitative methods, and focus groups). For example, the PSBS-PF could have been administered for peer ratings of RA.

Sixth, even if this study showed that the PFS intervention had significant effects on RA levels, the results would not have been generalizable due to small sample size and low power.

Future Research

This study opens up many opportunities for future research. First, since RA research is still in its formative stage (Walker, 2010), nationwide prevalence studies need to be conducted. Although some prevalence data could be collected with existing RA measures, perhaps it would be advantageous to develop an RA assessment tool that has developmentally appropriate questions for preschool, elementary, middle, high school and college students. Ideally, there would be teacher, peer and self-report versions, along with questions about students’ experiences using RA and receiving RA (also called “relational victimization;” Hawker & Boulton, 2000). This is a major undertaking that would take years to develop, field test, validate, administer nationwide and evaluate. If successful, norms could be developed which would significantly aid in the identification of students who are at-risk for RA, RA perpetrators, RA victims, and RA

perpetrators/victims. Early identification would be crucial. During the construction phase of the instrument, RA would need to be viewed as a separate construct from physical aggression (Crick & Grotpeter, 1995; Crick et al., 1997; Tomada & Schneider, 1997), and its relationship to bullying would need to be clarified (See Walker, 2010; Wolke, Woods, Bloomfield, & Karstadt, 2000; Craig, 1998). Having an assessment instrument that could be used as students mature could be helpful in confirming the trajectory and development of RA from early childhood to adulthood.

Second, as discussed in chapter one, several studies have been conducted concerning the relationship between gender and RA. Studies are needed that assess the relationship between other demographic variables and RA, such as socioeconomic status, race, and ethnicity (Hispanic or non-Hispanic). Leadbeater, Hoglund, and Woods (2003) compared classroom levels of relational victimization in high poverty schools to low poverty schools. It would be interesting to see if there are differences in how whites and minorities respond to RA interventions.

Third, Leff et al. (2010b) and Vlachou et al. (2011) contend that RA leads to physical aggression in low-income neighborhoods, but the nature of this relationship is unclear and its progression is undefined. Once researchers have identified the nature of the relationship and the progression from RA to physical aggression, intervention strategies could be developed that could either slow down, halt, or possibly even prevent the progression from taking place.

Fourth, since there were issues with power and sample size in this study, researchers are strongly encouraged to do a power analysis **prior** to conducting their study, and this study provides useful information in this regard. The power analysis will

reveal how many participants need to be in the study in order to detect small, medium and large effects between intervention and control groups. Larger samples also have more flexibility with the amounts and types of analyses that can be done. In addition to performing analyses that detect differences between groups, analyses can also be run that predict outcomes, such as whether RA predicts physical aggression.

Fifth, different types of studies are needed to further knowledge about RA. A few longitudinal preschool studies exist (See Vlachou et al., 2011; Crick et al., 2006; Roseth et al., 2007), but more are needed to ascertain long-term effectiveness of programs. Prospective longitudinal studies are needed to confirm the relationship between RA and future negative consequences, such as peer rejection (Crick et al., 2006). More qualitative studies are needed to understand the thinking processes of relationally aggressive children, the experiences of students victimized by RA, and the role of school culture in strengthening or weakening students' use of RA.

Last, studies are needed to evaluate the efficacy of programs that specifically target RA alone as compared with broader interventions that include RA with other targeted behaviors, and interventions (such as PFS) that promote general prosocial behaviors. Wolke et al. (2000) assert that different interventions are needed for students in involved in RA bullying alone, students involved in direct and relational bullying and those with other behavioral problems, but more studies are needed to establish whether this is what is needed. This knowledge would provide important guidance for policymakers, school social workers, counselors and teachers as determinations are made for school programming.

Conclusion

The purpose of this study was to examine the potential efficacy of a broad-based intervention, PFS, in reducing levels of RA in young children. First, it was hypothesized that children in the intervention group would have lower RA levels compared to the control group, after controlling for baseline RA levels. Second, it was hypothesized that more children in the intervention group would make clinically significant change or improve compared to those in the control group, and that more children in the control group would either not change or deteriorate than those in the intervention group. Third, it was hypothesized that the effects of the PFS intervention differ for children with elevated levels of RA. Results were mixed. While a group analysis did not detect significant differences between control and intervention groups, a responder analysis showed that twice as many children in the control group deteriorated in their RA behaviors compared to the intervention group. Children with higher levels of RA made significant progress when compared to children with lower levels of RA at post-intervention; however, this could be explained by regression to the mean as much as the PFS intervention.

This study makes several contributions: First, this study was unique in that a responder analysis was conducted in addition to group analysis. It detected individual progress or deterioration that the group analysis did not detect. Second, this study suggests that a broad-based intervention could potentially be efficacious if there is a home component that is designed to reduce RA. Parents can be taught how to interact with their children and model behaviors that inhibit the development of RA. If a broad-based intervention could potentially be efficacious in reducing RA in young children,

they could move towards academic success and potentially avoid peer rejection, academic failure, depression, and potential involvement in the criminal justice system.

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Table 1

Factors Influencing Labeling Acts as Aggressive

Factor	Definition
Characteristics of the behavior itself	Behavior where there is physical assault, psychological humiliation or property damage is generally considered aggressive.
Intensity of the behavior	Addressing someone loudly or performing acts that are beyond the tolerance limits of others (such as invading someone’s personal space) may be interpreted as aggressive.
Expressions of pain or injury by recipients of the aggression	Roughhousing and fighting may look similar, except for the expressions of pain in fighting.
The perceived intentions of the aggressor	Although difficult to judge, some ways that intentions may be assigned are where the act occurs (e.g., ball field vs. home, in the case of domestic violence); whether or not the person’s role is considered aggressive (e.g., a doctor who causes pain is generally not viewed as being aggressive unless standards of practice are being violated); and previous incidents or provocations, whether recent or remote (retaliation is more easily attributed to someone when there is immediate provocation).
Characteristics of the labelers	Individuals who tend to behave aggressively also tend to attribute hostile or aggressive intentions to others. Differences in background of the labeler – such as socioeconomic level, gender, race/ethnicity, education and occupation level and employment status also affect whether an act is labeled aggressive.
Characteristics of the aggressor	Cultural norms determine whether a specific behavior is labeled aggressive.

For instance, assertiveness in a male is seen as positive, whereas the same behavior in a female may be deemed aggressive – a deviation from the norm of what is considered appropriate female behavior.

Note. Adapted from Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice Hall.

Table 2

Interventions Addressing Relational Aggression

Developmental Level	Intervention	Summary	Web site
Preschool	Early Childhood Friendship Project	The Early Childhood Friendship Project is a six-week, classroom-based prevention program. It consists of three, 10-minute activities and three, one-hour reinforcement sessions per week designed to decrease physical and relational aggression.	http://wings.buffalo.edu/psychology/labs/SocialDevLab/labprojects.htm
	The You Can't Say-You Can't Play	The You Can't Say-You Can't Play contains eight to ten curriculum sessions emphasizes creating a peer group context and classroom climate where rules are developed to teach avoidance of using social exclusion.	
Elementary	<i>Making Choices: Social Problem Skills for Children</i>	<i>Making Choices: Social Problem Skills for Children</i> is a 22-week schoolwide intervention program (18-28 hours total) for kindergarten and elementary school children.	
	<i>Steps to Respect</i>	<i>Steps to Respect</i> is a 11-session schoolwide bullying prevention program that typically lasts 12weeks. It is designed for students in grades three to six, and targets malicious gossip, social exclusion and physical aggression.	http://www.cfchildren.org/steps-to-respect.aspx

Note. Adapted from Dailey, Frey, & Walker (2015). Relational aggression in school settings: Definition, development, strategies and implications. *Children & Schools*.

Table 3

Preschool First Step Efficacy Trial Measures and Schedule of Administration

Domain	Measure	Subscales	Time of Administration					Source	
			T 0	T 1	IF	T 2	T 3		
Outcomes									
Social competency and problem behavior	Social Skills Improvement System Rating Scales (SSiS-RS)	<ul style="list-style-type: none"> • Problem Behavior • Social Skills 		X			X	X	Parent
Social competency and problem behavior	Early Screening Project (ESP)	<ul style="list-style-type: none"> • Maladaptive Behavior Index (MBI) • Adaptive Behavior Index (ABI) • Critical Events Index (CEI) • Aggressive Behavior Scale (ABS) 	X	X			X		Teacher
Social competency and problem behavior	Child Behavior Checklist (CBCL)	<ul style="list-style-type: none"> • Problem Behaviors • Social Skills 	X	X			X	X	Parent
Social competency and problem behavior	Social Skills Improvement System Rating Scales (SSiS-RS)	<ul style="list-style-type: none"> • Problem Behavior • Social Skills 		X			X	X	Teacher
Aggression and social behavior	Preschool Social Behavior Scale Teacher Form (PSBS-TF) ¹	<ul style="list-style-type: none"> • Relational Aggression • Overt Aggression • Prosocial Behavior • Depressed Affect 	X	X			X	X	Teacher

Academic Engagement	Academic Engaged Time (AET)	N/A	X	X	X	Observation
Moderators and Mediators						
Participant characteristics (Mo)	Demographic Survey		X			Parent
Relationship quality (Mo)	Therapeutic Alliance	N/A		X		Teacher, Parent, & Coach
Participant characteristics (Mo)	Evidence-Based Practice Attitude Scale	<ul style="list-style-type: none"> • Appeal • Requirements • Openness • Divergence 	X			Teacher
Implementation measures and comparison conditions						
Implementation Fidelity	School Module Fidelity Checklist	<ul style="list-style-type: none"> • Adherence • Quality 		X		Observation
Implementation Fidelity	Home Module Fidelity Checklist	<ul style="list-style-type: none"> • Engagement (% Steps completed) • Dosage (# home visits) 		X		Coach
Implementation Fidelity	School Module Monitoring Log	<ul style="list-style-type: none"> • Adherence • Compliance 		X		Coach & Teacher
Social validity	Satisfaction Survey	<ul style="list-style-type: none"> • N/A 			X	Parent & Teacher

Note. T0 = Screening, T1 = Baseline, IF = Implementation Fidelity, T2 = Post Intervention, T3 = 6-Month Post Intervention Follow-up; Me = Mediator/proximal outcome, Mo = Moderator.

¹Data collected for cohort 3 only.

Adapted from Feil et al. (2015). The efficacy of a home-school intervention for preschoolers with challenging behaviors: A randomized controlled trial of *Preschool First Step to Success*.

Table 4

Baseline Equivalence of Demographic Characteristics in Control and Intervention Groups in PFS Efficacy Trial.

	Total (n = 124)	Control (n = 59)	Intervention (n = 65)	Test statistic	<i>p</i> - value
Demographic Characteristic					
Age <i>M(SD)</i>	4.1 (0.4)	4.1 (0.4)	4.0 (0.4)	0.78	.436
Percent Female	43 (34.7)	23 (39.0)	20 (30.8)	0.92	.337
Percent Hispanic/Latino	17 (14.5)	13 (22.8)	4 (6.7)	6.13	.013
Percent African American	39 (31.5)	16 (27.1)	23 (35.4)	0.98	.322
Percent Caucasian	56 (45.2)	27 (45.8)	29 (44.6)	0.02	.898

Note. Reported test statistics are χ^2 for dichotomous measures.

Adapted from Feil et al. (2015). The efficacy of a home-school intervention for preschoolers with challenging behaviors: A randomized controlled trial of Preschool First Step to Success.

Table 5

Baseline and Post-Intervention Means and Standard Deviation for Outcome Measures by Condition and Regression Results in PFS Efficacy Trial

Domain / measure	Control (n = 61)			Intervention (n = 65)			Condition effect		Effect size
	Baseline <i>M(SD)</i>	Post-Intervention <i>M(SD)</i>	<i>M_{Adj}</i>	Baseline <i>M(SD)</i>	Post-Intervention <i>M(SD)</i>	<i>M_{Adj}</i>	<i>t</i>	<i>p-value</i>	Hedge's <i>g</i>
Pro-social behavior									
ESP-ABI	22.9 (5.3)	25.3 (6.2)	25.3	22.4 (4.4)	30.4 (5.6)	30.5	5.59	< .001	.88
SSiS-SS-Teacher	76.8 (11.3)	83.3 (13.8)	83.5	77.4 (11.4)	94.5 (13.7)	94.1	5.06	< .001	.77
SSiS-SS-Parent	91.1 (15.0)	94.8 (15.2)	95.1	93.7 (12.2)	100.1 (12.9)	99.3	2.17	.030	.29
Problem behavior									
ESP-MBI	29.6 (7.2)	27.3 (7.3)	27.1	29.0 (6.1)	21.7 (7.4)	21.9	-4.58	< .001	.71
ESP-ABS	21.0 (7.1)	19.8 (8.1)	19.4	19.5 (5.4)	14.5 (4.5)	14.9	-4.50	< .001	.70
SSiS-PB-Teacher	128.2 (15.2)	125.3 (16.1)	124.7	125.8 (11.0)	112.2 (14.0)	112.9	-4.82	< .001	.79
SSiS-PB-Parent	119.4 (17.3)	118.7 (18.1)	118.4	116.7 (16.0)	109.9 (15.1)	110.9	-3.19	.001	.45

Source: Feil et al. (2015). The efficacy of a home-school intervention for preschoolers with challenging behaviors: A randomized controlled trial of Preschool First Step to Success.

Table 6

RA Items from PSBS-TF: #s 4,8,11,15,21,22

4. This child tells a peer that he/she won't play with that peer or be that peer's friend unless he/she does this child asks.
8. This child tells others not to play with or be a peer's friend.
11. When mad at a peer, this child keeps that peer from being in the play group.
15. This child tells a peer they won't be invited to their birthday party unless he/she does what the child wants.
21. This child tries to get others to dislike a peer (e.g. by whispering mean things about the peer behind the peer's back).
22. This child verbally threatens to keep a peer out of the play group if the peer doesn't do what the child says.

Note. Responses are *never or almost never* (1 point), *not often* (2 points), *sometimes* (3 points), *often* (4 points) and *always or almost always true* (5 points).

Source: Crick, N. R., Casas, J. F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology, 33*, 579-588.

Table 7

Baseline Equivalence of Demographic Characteristics (RA Study)

	Total (n = 41)	Control (n = 20)	Intervention (n = 21)	Test statistic	df	p- value
Demographic characteristics						
Age <i>M(SD)</i>	4.2 (0.4)	4.2 (0.4)	4.3 (0.4)	-0.29	1	.777
Female (Percent)	17 (41.5)	8 (19.5)	9 (22.0)	0.03	1	.853
Hispanic/Latino (Percent)	4 (4.9)	2 (10.0)	2 (9.5)	2.01	2	.367
African American (Percent)	11 (26.8)	3 (15.0)	8 (38.1)	3.55	2	.169
Caucasian (Percent)	21 (51.2)	13 (65.0)	8 (38.1)	2.97	2	.226
American Indian (Percent)	2 (4.9)	1 (5.0)	1 (4.8)	*	*	*
More than one Race (Percent)	4 (9.8)	2 (10.0)	2 (9.5)	*	*	*

Note. Reported test statistics are χ^2 for dichotomous/categorical measures and *t* for continuous measures.

*Numbers are too low to run a χ^2 statistic.

Table 8

Baseline Equivalence of Outcome Measures by Condition (RA Study)

	Total (n = 41)	Control (n = 20)	Intervention (n = 21)	Test statistic	df	<i>p</i> - value
Outcome measures						
SSiS Social Skills M(SD)	89.5 (12.9)	89.3 (12.6)	89.7 (13.4)	-0.12	39	.908
SSiS Problem Behavior M(SD)	121.5 (18.5)	123.8 (19.5)	119.2 (17.7)	0.77	38	.447
Adaptive Behavior Scale (ABS) M(SD)	20.9 (6.5)	21.9 (7.7)	19.9 (5.2)	1.00	39	.322
Maladaptive Behavior Index (MBI) M(SD)	30.8 (6.3)	30.8 (5.4)	30.8 (7.2)	0.54	39	.592
PSBS-TF- RA Subscale M(SD)	14.0 (7.9)	13.3 (8.0)	14.7 (8.0)	-0.55	39	.588

Note. Reported test statistics are *t* for continuous measures.

Table 9

ANCOVA Results for Research Question 1

Dependent Variable: Post-Intervention RA Score

Source	Sum of Squares	df	Mean Square	F	p	η^2	Observed Power ^b
Corrected model	332.951a	2	166.475	6.936	.003	.267	.903
Intercept	418.449	1	418.449	17.434	.000	.314	.982
Baseline RA	283.048	1	283.048	11.793	.001	.237	.917
Condition	36.056	1	36.056	1.502	.228	.038	.223
Error	912.074	38	24.002				
Total	6406.000	41					
Corrected Total	1245.024	40					

Note. a. R squared = .267 (Adjusted R Squared = .229)

b. Computed using alpha = .05.

Table 10

Students' Changes between Pre- and Post-Intervention

Category	Control Group (N = 20)	Intervention Group (N = 21)
Made clinically significant change	3	5
Improved	5	4
Unchanged	4	8
Deteriorated	8	4

Note. See Appendix B for each child's change between pre- and post-intervention.

Table 11

ANOVA Results for Research Question 2

Dependent Variable: RA Change Score

Source	Sum of Squares	df	Mean Square	F	p	η^2	Observed Power ^b
Corrected model	893.796 ^a	3	297.932	9.626	.000	.438	.995
Intercept	287.155	1	287.155	9.277	.004	.200	.843
Condition	37.024	1	37.024	1.196	.281	.031	.187
RA Level	874.926	1	874.926	28.267	.000	.433	.999
High/Low RA*Condition	.985	1	.985	.032	.859	.001	.053
Error	912.074	37	30.952				
Total	6406.000	41					
Corrected Total	1245.024	40					

Note. a. R Squared = .438 (Adjusted R Squared = .393)

b. Computed using alpha = .05

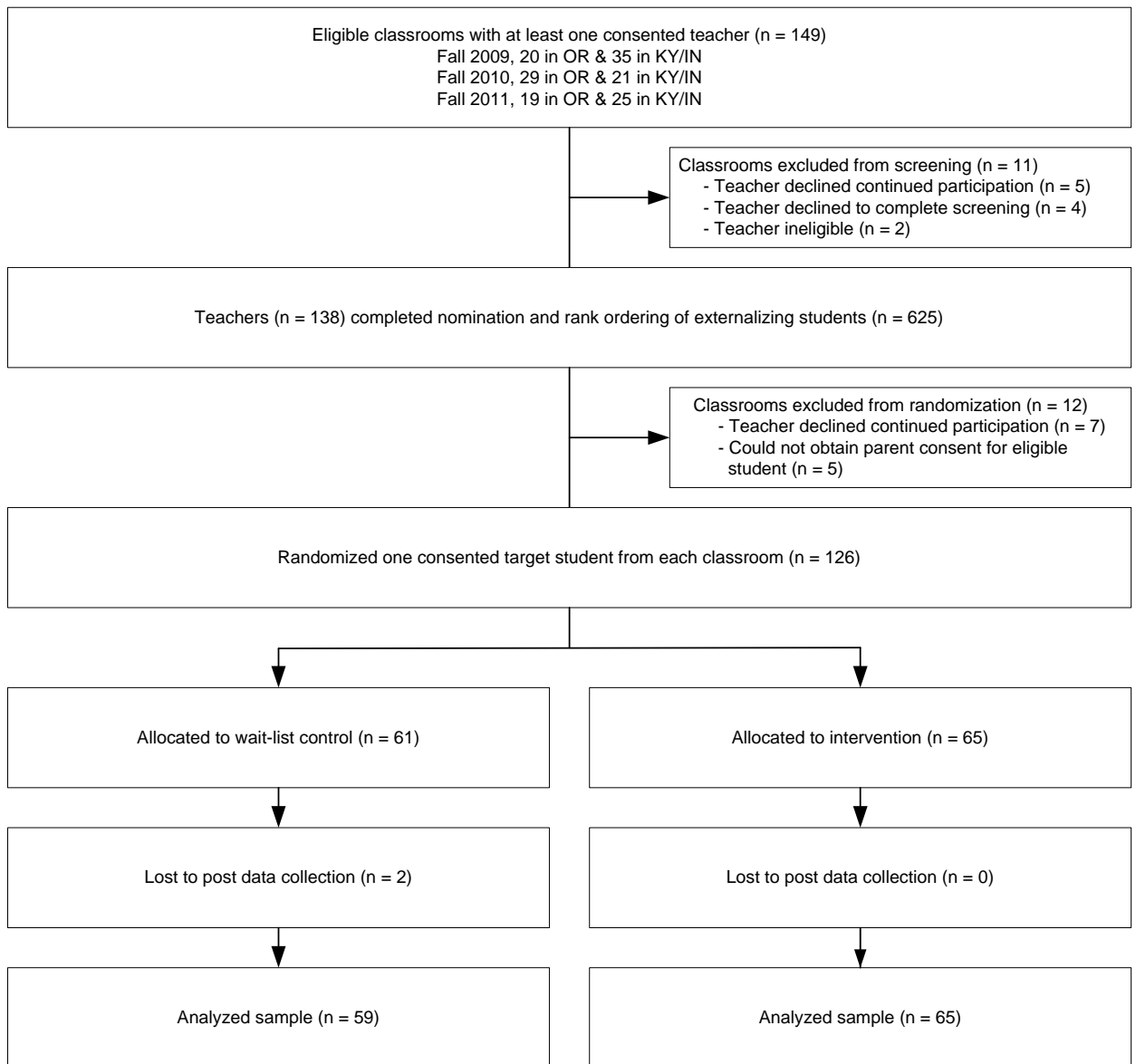


Figure 1.

Schematic overview of participation and sample definition through screening, consent, randomization, and data collection intervals

Source: Feil et al. (2015). The efficacy of a home-school intervention for preschoolers with challenging behaviors: A randomized controlled trial of Preschool First Step to Success. *Journal of Early Intervention*, p. 4.

Appendix A

Acronyms and their Corresponding Terms

Acronym	Corresponding Term
ABI	Adaptive Behavior Index
ABS	Aggressive Behavior Scale
ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
ASD	Autism Spectrum Disorder
B-H Correction	Benjamin-Hochberg Correction
CCC-TF	The Carolina Child Checklist-Teacher Form
CI	Confidence Interval
CPRS	Children's Peer Relations Scale
CSBS-P	Children's Social Behavioral Scale - Peer Form
CSBS - T	Children's Social Behavioral Scale - Teacher Form
ESP	Early Screening Project
ISRA	Indirect, Social and Relational Aggression Scale
MBI	Maladaptive Behavior Index
MC	Making Choices
PFS	Preschool First Step
PSBS-PF	Preschool Social Behavior Scale – Peer Form
PSBS-TF	Preschool Social Behavior Scale - Teacher Form
RA	Relational Aggression
RAVS	Relational Aggression and Victimization Scale

RCI	Reliable Change Index
SIP	Sensory Information Processing
SSiS	Social Skills Improvement System
SSiS-RS	Social Skills Improvement System Rating Scales
SCORE	Survey for Coping with Rejection Experiences
SF	Strong Families

Appendix B

Reliable Change Index for RA Study Participants

Child ID	RCI Value	PSBS-TF RA Score Pre	RA Status Pre	PSBS-TF RA Score Post	RA Status Post	Moved to Normative Range?	Classification	Control (0) or Intervention (1) Group
2729	-1.339	7.00	N	6.00	N	N/A	3	1
2734	0.000	6.00	N	6.00	N	N/A	3	1
2738	2.678	7.00	N	9.00	AR	No	4	0
2743	-1.339	22.00	AR	21.00	AR	No	3	1
2747	-29.463	30.00	AR	8.00	N	Yes	1	0
2755	-2.678	11.00	AR	9.00	AR	No	2	0
2776	-8.035	12.00	AR	6.00	N	Yes	1	1
2795	8.035	10.00	AR	16.00	AR	No	4	0
3193	0.000	6.00	N	6.00	N	N/A	3	1
3205	-13.392	19.00	AR	9.00	AR	No	2	1
3211	-5.357	11.00	AR	7.00	N	Yes	1	0
3214	-8.035	13.00	AR	7.00	N	Yes	1	1
3219	5.357	8.00	N	12.00	AR	No	4	0
3224	10.714	6.00	N	14.00	AR	No	4	0
3234	0.000	6.00	N	6.00	N	N/A	3	0
3238	9.375	6.00	N	13.00	AR	No	4	1
3243	-5.357	10.00	AR	6.00	N	Yes	1	1
3246	4.018	7.00	N	10.00	AR	No	4	0
3250	0.000	6.00	N	6.00	N	N/A	3	1
3251	-12.053	20.00	AR	11.00	AR	No	2	0
3253	4.018	6.00	N	9.00	AR	No	4	1
3268	0.000	6.00	N	6.00	N	N/A	3	0
3272	-16.071	24.00	AR	12.00	AR	No	2	1
3282	-5.357	14.00	AR	10.00	AR	No	2	0
2714	-17.410	22.00	AR	9.00	AR	No	2	0
2715	-16.071	28.00	AR	16.00	AR	No	2	0
2723	0.000	6.00	N	6.00	N	N/A	3	1
2727	-16.071	20.00	AR	8.00	N	Yes	1	1
2757	-9.375	27.00	AR	20.00	AR	No	2	1
2764	4.018	7.00	N	10.00	AR	No	4	1
2766	1.339	7.00	N	8.00	N	N/A	3	0
2773	5.357	24.00	AR	28.00	AR	No	4	0
2781	6.696	10.00	AR	15.00	AR	No	4	1
2790	-14.731	25.00	AR	14.00	AR	No	2	1
2801	6.696	18.00	AR	23.00	AR	No	4	0

3194	1.339	11.00	AR	12.00	AR	No	3	0
3198	0.000	6.00	N	6.00	N	N/A	3	1
3204	-1.339	22.00	AR	21.00	AR	No	3	1
3229	4.018	17.00	AR	20.00	AR	No	4	0
3263	-24.106	24.00	AR	6.00	N	Yes	1	1
3279	-18.749	27.00	AR	13.00	N	Yes	1	0

Output Key:

Red	Improved
No	
Color	No Change
Green	Deteriorated

RA Status Mean Cutoff: 8.89

< 8.89	Normative Range (N)
≥ 8.89	RA At-Risk Range (AR)

Classification Key:

1	Responded (Red & Yes)
2	Improved (Red & No)
3	Unchanged (Neither red nor green)
4	Deteriorated (Green)

Key to Groups:

0	Control
1	Intervention

CURRICULUM VITAE

Alicia L. Dailey, M.A., M. DIV., MSSW

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School Email: alicia.dailey@louisville.edu. Personal Email: aldailey2@gmail.com

EDUCATION

- **Ph.D. Candidate in Social Work.** University of Louisville, Louisville, Kentucky. Estimated graduation date: May 2015.
- **Master of Science in Social Work.** University of Louisville, Louisville, Kentucky, 2008.
- **Master of Divinity in Social Work.** The Southern Baptist Theological Seminary, Louisville, Kentucky, 1995.
- **Master of Arts in Biblical Studies.** International School of Theology, San Bernardino, California, 1985.
- **Bachelor of Arts in Sociology.** DePauw University, Greencastle, Indiana, 1979.

EXPERIENCE

Graduate Teaching Assistant (Coordinator, Bonner Leader AmeriCorps Program).

University of Louisville, Raymond A. Kent School of Social Work, Louisville, Kentucky.

September 2014 – present.

- Prepare and facilitate biweekly Bonner meetings which cover topics such as “The Causes and Consequences of Poverty/Homelessness,” “Citizenship: Rights, Responsibilities and Struggles,” and “Advocacy 101.”
- Prepare and facilitate Bonner Leadership Team meetings.
- Monitor and approve Bonner Leader community learning agreements, logging service hours, and service accomplishments
- Mentor and supervise Bonner Leader interns as they take leadership roles in the biweekly Bonner meetings, plan service projects and perform tasks in the Bonner office.
- Conduct Bonner advising addressing academic, service, career aspirations and experience at service sites, and provide support and referrals to campus supports as needed.

Graduate Research Assistant. *University of Louisville, Raymond A. Kent School of Social Work, Louisville, Kentucky. July 2011 – present.*

- Researched relational aggression in school settings. *July 2011 – August 2014.*
- Collected observational data on child’s time on task and peer interaction in pre-intervention, intervention, and post-intervention phases of children enrolled in Enhanced First Step to Success and First Step to Success Preschool programs – for young children with challenging behaviors. Also conducted fidelity assessments of teachers’ implementation of First Step intervention. *Research funded by grants from NICHD (#R01HD055334 and #R21HD43765) and ACYF. July 2011 - May 2012.*

Research Assistant. *University of Kentucky, College of Public Health, Department of Behavior, Lexington, Kentucky. Performed duties in Louisville, Kentucky. Research funded by grant from Louisville Metro Housing Authority. September – December 2013.*

- Conducted quantitative interviews with former Louisville Metro Housing Authority Sheppard Square housing development residents about their quality of life since relocation as part of Hope VI longitudinal program evaluation.
- Referred residents to community resources as appropriate.

Intake Coordinator. *The Brook Hospital, Louisville, Kentucky. June 2008 – April 2011.*

- Answered and documented incoming intake calls regarding psychiatric and chemical dependency issues. Offered and scheduled evaluations and/or provided referrals to other resources.
- Conducted initial patient evaluations. Consulted with psychiatrists who recommended appropriate level of care: inpatient, partial hospitalization, intensive outpatient, or referral for outpatient treatment.
- Worked cooperatively with medical staff, business office, other hospital departments and insurance companies.

First Step to Success Coach. *University of Louisville, Raymond A. Kent School of Social Work, Louisville, Kentucky. September 2009 – June 2010. Research funded by grants from NICHD (#R01HD055334 and #R21HD43765) and ACYF.*

- Conducted classroom observations and implemented intervention with preschool children with challenging behaviors enrolled in the First Step to Success Program.
- Worked collaboratively with parents and teachers in school and home components of intervention.
- Conducted fidelity assessments to assess quality of implementation in teacher phase of intervention.

First Step to Success Data Collector. *University of Louisville, Raymond A. Kent School of Social Work, Louisville, Kentucky. January – June 2009, August 2010 – June 2011.*

- Obtained parental consent for study of children with challenging behaviors selected for enrollment in First Step to Success Program in Jefferson County Public Schools' Early Childhood Program.
- Collected observational data on child's time on task and peer interaction in pre-intervention, during intervention, and post-intervention phases of children grades preschool through three.

Research Assistant. *University of Louisville, Raymond A. Kent School of Social Work, Louisville, Kentucky. August 2008 – April 2009. Research funded by grant from Louisville Metro Housing Authority.*

- Participated in Wave II of Hope VI longitudinal program evaluation by conducting in-home quantitative interviews with former Louisville Metro Housing Authority Clarksdale housing development residents about their quality of life since relocation.
- Referred residents to community resources as appropriate.

Workshop Facilitator. *Project Warm, Louisville, Kentucky. September – December 2008.*

- Conducted energy management workshops where participants (primarily low-income) learned how to minimize heat loss during the winter, thereby reducing cost on their utility bills.
- Provided energy savings kits to workshop participants.

- Collected data on how many participants had received, or were applying to receive energy bill assistance.

Program Consultant, First Steps Program (Early intervention program for children birth to three with developmental delays). *Eastern Kentucky University, on contract with The Commonwealth of Kentucky. Out-stationed at University of Louisville, Louisville, Kentucky. March 2005 – September 2007.*

- Provided technical assistance and training to service coordinators, service providers and families about complex program regulations, policies, procedures, and evidence-based practices.
- Conducted orientation training for new First Steps service coordinators and service providers, including training service coordinators on how to complete First Steps forms regarding children’s Medicaid/KCHIP and private insurance status.
- Provided support and/or reports to District Early Intervention Committees, State Interagency Coordinating Committee, Central Office, University of Louisville, Eastern Kentucky University and others as needed.
- Collaborated with Department for Education representatives regarding transition of children and families from First Steps to preschool and Head Start programs.
- Served on Head Start/Early Head Start Health and Disability Services Advisory Committee, Louisville, Kentucky.
- Facilitated cultural/racial diversity workshop for my district.

Financial Case Manager/Family Share Administrator, First Steps Program. *Eastern Kentucky University, on contract with The Commonwealth of Kentucky. Frankfort and Louisville, Kentucky. July 2000 – March 2005.*

- Provided technical assistance to service coordinators and families about eligibility for regular Medicaid, KCHIP, Home and Community Based Waiver, and Medicaid for Disabled Children. Assisted and advocated for families during application or appeals process.
- Spearheaded First Steps statewide Medicaid/KCHIP enrollment campaign, resulting in highest percentage of Medicaid share of budget in program’s history at that time.
- Provided training and technical assistance on “Family Share” policy (families’ monthly contribution during child’s enrollment in First Steps based upon income and household size) to state staff, service coordinators, providers and families.
- Provided training and technical assistance to state staff, service coordinators and providers on billing private insurance, even after leaving this position and First Steps.
- Resolved Family Share billing problems with families, service coordinators and CBIS. Requested and received documentation to make changes. Communicated changes to appropriate staff or made them myself.
- Updated training materials on First Steps policies regarding Medicaid/KCHIP, private insurance usage and Family Share, including PowerPoint presentations.
- Posted information regarding Medicaid/KCHIP, private insurance usage and Family Share on First Steps web site, including Frequently Asked Questions (FAQs).
- Created First Steps Financial Information Form.
- Drafted regulations relating to Medicaid, private insurance and Family Share usage in First Steps.
- Drafted changes to financial section of First Steps Policies and Procedures manual.

Coordinator of Development. *Career Resources, Inc., Louisville, Kentucky. January – June 2000.*

- Managed contracts from different funding sources to ensure compliance with funders' requirements.
- Responded to findings by Private Industry Council monitor.
- Attended grant proposal writing training through The Grantsmanship Center.

Welfare-to-Work Coordinator. *Career Resources, Inc., Louisville, Kentucky. February – December 1999.*

- Coordinated the 7.5 million Welfare-to-Work grant program, targeting long-term TANF recipients, covering a seven-county area, including program design, implementation, initiating service delivery, and modifying program design as needed. Participants were provided with an employment advocate, support services, transportation support, emergency financial assistance, vocational assessment, and access to education and training.
- Monitored consistency, quality and collaboration of 15 agencies in meeting performance goals.
- Directed activities of the employment advocates.

Administrator, Workforce Development Partnership Center, The Nia Center. *City of Louisville, Louisville, Kentucky. July 1997 – February 1999. ("Nia" is Swahili, meaning, "purpose.")*

- Supervised 20 staff and activities of one-stop career center (Career Resources, Inc.) and industry-specific training center (Workforce Skills Academy).
- Facilitated communication between one-stop partners who were co-located at the Nia Center: Private Industry Council, Department for Employment Services and Department for Vocational Rehabilitation.
- Evaluated requests to enroll customers in voucher job training programs.
- Conducted tours/gave presentations to local, regional, national and international visitors.
- Edited and compiled business plan which was used as a template for other one-stop centers seeking charter status through the Private Industry Council.
- Provided regular reports to Louisville Empowerment Zone Board and Career Resources corporate office.

Coordinator, Workforce Skills Academy. *City of Louisville, Louisville, Kentucky. January – June 1997.*

- Implemented start-up of industry-specific basic skills, pre-employment/life skills and pre-trade skills training program for Louisville Empowerment Zone residents in the manufacturing trades.
- Activated network of community organizations that referred and mentored participants.
- Referred trainees to network of employers within manufacturing sector.

Energy Educator. *Project Warm, Louisville, Kentucky. October 1996 – January 1997.*

- Conducted home visits with low-income customers about energy-saving work that would be performed and energy-saving habits that could be implemented to help lower utility bills.
- Assisted program performance by visiting 1500th home on last day of grant period.

Pastor. *Beamer United Methodist Church, Kokomo, Indiana. February – October 1996.*

- Performed customary religious duties, including visitation, planning services and music.
- Provided administrative oversight of church board and church committees.

- Started emergency assistance program; collaborated with existing community programs.

Homeless Families Prevention Project Case Manager. *Metro Human Needs Alliance (MHNA), Louisville, Kentucky. September – December 1995.*

- Provided crisis intervention, monitoring and support to families at high risk of homelessness.
- Assisted families in maintaining their subsidized housing status.

Jobs and Education Graduate Research Assistant. *University of Louisville Housing and Neighborhood Development Strategies (HANDS) Program, Louisville, Kentucky. June 1994 – May 1995.*

- Coordinated Esteem Team Program in two elementary schools (Byck and Roosevelt-Perry).
- Assisted with pre-apprenticeship program development for building trades.
- Developed training curriculum for, trained, and supervised AmeriCorps volunteers.

Professor's Assistant. *The Southern Baptist Theological Seminary, Louisville, Kentucky. August 1993 – January 1996.*

- Compiled ten-year history of The Gheens Center for Christian Family Ministry.
- Conducted research for Visiting Professor for Carver School of Church Social Work.

Case Manager. *Cabbage Patch Settlement House, Family Services Department, Louisville, Kentucky. August 1992 – September 1995.*

- Set day care fees on sliding scale for employed parents with children enrolled in day care.
- Provided crisis and longer-term intervention services in office or parents' homes.
- Assisted with parent support group, Back-to-school, Christmas projects.

Christian Education Director. *First Alliance Church, Louisville, Kentucky. September 1991 – June 1992.*

- Recruited and supervised volunteers who worked in nursery through adult classes.
- Wrote job descriptions and church newsletter articles.
- Organized and conducted quarterly training meetings.

Staff Analyst (Job Training Partnership Act). *City of San Bernardino Employment and Training Agency, San Bernardino, California. January 1988 – June 1991.*

- Vocational Assessment Counselor and Supervisor: Using the COPES System, assessed clients' job aptitudes, interests and values. Referred clients to voucher training or on the job training (OJT) program.
- Summer Youth Program Co-Coordinator: Obtained contractual agreements from worksites and determined the number of openings for Summer Youth participants. Assessed program participants to match them with worksite openings. Managed \$438,000 budget.
- GED Computer Lab Coordinator: Researched and selected GED software and curriculum. Three out of four in first class passed the GED on the first try.
- Job Search Workshop Coordinator; editor and compiler, 100-page job search manual entitled, "Finding the Job You Want."
- Interim Classroom Training Coordinator: Approved voucher training for clients and tracked their progress. Maintained good working relationship with schools that provided training.

Substitute Teacher. *Fontana and San Bernardino, California School Districts. July – December 1987.*

- Taught K-12 and Special Education.

Research Assistant to Senior Pastor. *Loveland Church, Fontana, California. September 1985 – September 1986.*

- Provided exegetical research on pastor's selected sermon texts.
- Critiqued pastor's sermons at his request.
- Taught cell group leaders lessons in pastor's absence.
- Wrote articles in church newsletter (readership of 3200).

Staff. *Ministry Development, Inc., San Bernardino, California. July 1983 – December 1986.*

- Participated in evangelism, discipleship, women's, singles' and music ministries at Loveland Church.

Intercultural Campus Ministry Staff; Administrative Assistant. *Campus Crusade for Christ, Atlanta, Georgia. July 1979 – July 1983.*

- Provided spiritual consultation, support, training and instruction to college students attending the Atlanta University Center – specifically Spelman, Morehouse and Clark Colleges.
- Provided administrative support for Intercultural Ministry traveling lecturer: travel, finances, correspondence, publicity, and conference set-up.
- Conducted extensive historical research for anticipated book, "Which Way, Black America?"

INTERNSHIPS

- **Family Self-Sufficiency (FSS) and Community Supportive Services (CSS) Case Manager.**
Provided case management services to public housing residents and Section 8 voucher holders.
Louisville Metro Housing Authority, Louisville, Kentucky. August 2007 – April 2008.
- **Visitation Intern.** Made home visits to visitors. *Loveland Church, Fontana, California. Summer 1985.*
- **Drug Prevention Intern.** Observed anti-drug teaching and counseling in the public schools. *Merrill Community Services, Fontana, California. March – May 1984.*
- **Inner City Intern.** Social ministry involving home visitation, referrals, and volunteering at Chicago Gospel Youth Center. *Campus Crusade for Christ, Chicago, Illinois. January 1979.*
- **Undergraduate Research Participant in Sociology.** Researched "Friendship in the Nursery School" for Sociology Professor. *Indiana University, Bloomington, Indiana. Summer 1978.*
- **Admissions Intern (off-site).** Recruited prospective students to DePauw University for DePauw University Admissions Office. *Cape Cod, Massachusetts. January 1978.*
- **Television News Intern.** *WTHR, Indianapolis, Indiana. January 1977.*

HONORS/AWARDS

- Southern Regional Education Board (SREB) Scholar, 2011-present.
- Cambridge's Outstanding VIP for Social Services for the year 2008-2009.
- Cambridge Who's Who among Executive and Professional Women for the year 2007-2008.
- Disability Awareness Award for Outstanding Achievement, University of Louisville, 2008.
- Accepted State Job Training Partnership Act (JTPA) award on behalf of the Nia Center for "Outstanding Program Serving People with Multiple Barriers to Employment", 1998.

- Clyde T. Francisco Preaching Award, Southern Baptist Theological Seminary, 1991.
- Outstanding Black Women of Indiana, 1990;
- Outstanding Young Women of America, 1985.
- Valuable Service Award, International School of Theology, 1985.
- Outstanding Sociology Major of DePauw University, 1979.
- Mortar Board, DePauw University, 1978.
- Phi Eta Sigma Scholastic Honorary, DePauw University, 1976.
- Winner of four-year Malpas Scholarship to DePauw University, 1975-1979.
- Alpha Lambda Delta Scholastic Honorary, DePauw University, 1975.

PUBLICATIONS

Peer-Reviewed Articles:

- **Dailey, A. L.**, Frey, A. J., and Walker, H. M. (2015). Relational Aggression in School Settings: Definition, Development, Strategies and Implications. *Children & Schools*. doi: 10.1093/cs/cdv003.
- **Dailey, A. L.**, and Washington, K. T. (under review). Linking the Political to the Personal: A Qualitative Analysis of the “Two Grocery Stores” Assignment.
- **Dailey, A. L.** (1987). “Depressed People Need Friends,” *Psychology for Living*, (August), pp. 20-21.
- Moore, S. E., Robinson, M., **Dailey, A. L.**, and Thompson, C. V. (2015). Suffering in silence: Child Sexual Molestation and the Black Church: If God Don’t Help Me Who Can I Turn To? *Journal of Human Behavior in the Social Environment*. doi: 10.1080/10911359.2014.956962.
- Stone, R., **Dailey, A.**, and Barbee, A. Clarksdale HOPE VI Employment Outcomes: Did it Work? To be submitted to *Social Work Review*.

Dissertation Topic: “Relational Aggression in School Settings: The Efficacy of the First Step to Success Intervention.”

Technical Report:

- Stone, R., **Dailey, A.**, Barbee, A., and Patrick, D. (2011). HOPE VI Evaluation: Final Report. Louisville Metro Housing Authority and Housing Urban Development.

Book Contributor:

- **Dailey, A. L.** (1996). “Hagar’s Hell.” In Carol Rubarts and Bill Thomason, eds. *Voices of Women’s Spirituality*, pp. 54-59. Louisville, Kentucky: Glad River Publications.

Review:

- **Dailey, A. L.** (1994). Review of “Not in my Church” Video, *Journal of Family Ministry*, 8(2), pp. 44-46.

Compiler and/or Editor:

- *Ten-Year History of the Gheens Center for Christian Family Ministry (1995)*. Carver School of Church Social Work, Southern Baptist Theological Seminary.
- *Finding the Job You Want (1990)*. San Bernardino Employment and Training Agency, San Bernardino, California.

Article in Student Publication:

- **Dailey, A. L.** (1994). Neighborhood Development: A Needed Specialization in Social Work Practice. *Grassroots*, Organization of Student Social Workers (December), Carver School of Church Social Work, Southern Baptist Theological Seminary, Louisville, Kentucky.

Pamphlet:

- **Dailey, A. L.** (1975). "It Could Happen to You." Indianapolis, Indiana: Indiana State Board of Health.

TEACHING EXPERIENCE

- Taught MSSW Course (Fall 2012): **Social Welfare Institutions, Policies, and Services**, Raymond A. Kent School of Social Work, University of Louisville.
- Took "Teaching in Social Work" Course (Fall 2012), Raymond A. Kent School of Social Work, University of Louisville. Products: professional development plan, teaching philosophy, class presentations, syllabus.

PRESENTATIONS

- Stone, R., and **Dailey, A.** "Perception of Neighborhood Safety after HOPE VI Relocation." Urban Affairs Association Annual Meeting, Miami, Florida, 2015.
- Poster Presentation: Frey, A., Lee, J., Young, L., Cotton, S., **Dailey, A.**, and Thompson, C. "The Efficacy of a Home-School Intervention for Preschoolers with Challenging Behaviors: A Randomized Controlled Trial of Preschool First Step to Success." Celebration of Teaching Excellence, University of Louisville, Louisville, Kentucky, September 2013.
- "Journey from Master of Divinity (Social Work Concentration) to Ph.D. Social Work Student." Community Practitioners Meeting, Louisville, Kentucky, March 2013.
- Stone, R., Barbee, A.P., and **Dailey, A. L.** "There is HOPE! A Follow-up Study of the Wellbeing of Former Clarksdale Residents." Urban Affairs Association Annual Meeting, Honolulu, Hawaii, 2010.
- "Billing Insurance." First Steps Bluegrass District Provider Meeting, November 2008; Infant Toddler Institute, Lexington, Kentucky, August 2008 and August 2007; First Steps Technical Assistance and Central Office Staff, Frankfort, Kentucky, December 2007.
- "God's Spirit, Call, Gifts and Armor: Power in Your Life and Ministry/Practice." 53rd Convention and Training Conference of the North American Association of Christians in Social Work, October 2003.
- "Nia Center One-Stop National Model." Plenary and workshop sessions at Weed and Seed Technology Conference, Ft. Worth, Texas, October 1998.
- "Christian Community Development: Church Social Work in Impoverished Neighborhoods." Conference on Social Work and 10 Year Anniversary Celebration of the Carver School of Church Social Work, Southern Baptist Theological Seminary, April 1994.
- Grise-Owens, E., and **Dailey, A.**, "Biblical Basis of Family." The Gheens Center for Christian Family Ministry, Carver School of Church Social Work, Southern Baptist Theological Seminary, March 1994.
- "Friendship in the Nursery School." Midwest Sociological Association Meetings, Minneapolis, Minnesota, May 1979.

COMMUNITY INVOLVEMENT

Present:

- Chair, Villages of Park DuValle Homeowners' Association Grievance Committee, Louisville, Kentucky.
- Member and one of the associate ministers, New Zion Baptist Church, Louisville, Kentucky.
- Church organist, Guiding Star Baptist Church, Louisville, Kentucky.

Past:

- Community representative in Restorative Justice Program for youth. Louisville, Kentucky.
- Board member, Park DuValle Neighborhood Association, Louisville, Kentucky.
- Member, National Association of Social Workers
- Member, North American Association of Christians in Social Work
- Member, Christian Community Development Association
- Evangelicals for Social Action
- Christians for Urban Justice
- Christian Legal Society

REFERENCES

References will be made available upon request.