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Jason C. Basinger
Utah State University

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PERSPECTIVE AND PRACTICES TO ADDRESS ROUGH-AND-TUMBLE PLAY IN THE SCHOOL SETTING: A SURVEY OF SCHOOL-WIDE POSITIVE BEHAVIOR SUPPORT TEAMS IN UTAH

by

Jason C. Basinger

A thesis submitted in partial fulfillment
of the requirements for the degree

of

EDUCATIONAL SPECIALIST

in

Psychology

Approved:

Donna Gilbertson, Ph.D. Major Professor	Gretchen Gimpel Peacock, Ph.D. Committee Member
Kyle Hancock, Ph.D. Committee Member	Mark R. McLellan, Ph.D. Vice President for Research and Dean of the School of Graduate Studies

UTAH STATE UNIVERSITY
Logan, UT

2012

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ABSTRACT

Perspective and Practices to Address Rough-and-Tumble Play in the School Setting: A Survey of School-Wide Positive Behavior Support Teams in Utah

by

Jason C. Basinger, Educational Specialist

Utah State University, 2012

Major Professor: Donna Gilbertson, Ph.D.
Department: Psychology

Prior research of rough-and-tumble play (RTP) has shown mixed results—different operational definitions, varying functions, and positive and negative outcomes. Few researchers have studied interventions to address RTP in school settings. With unclear evidence of RTP outcomes and the extent school interventions are addressing RTP in school settings, this study explored the extent and effectiveness of intervention programs being implemented to prevent/reduce negative outcomes of RTP in elementary schools.

A survey was created and conducted with 30 school problem-solving teams in a western state to obtain information concerning RTP in elementary school settings. Teams provided estimated percentages of RTP leading to beneficial and problematic behaviors, types of benefits or problems resulting from RTP, specific prevention/intervention programs that teams report implementing to address RTP concerns, percentage

estimations of students responding to implemented interventions, and training needs to address interventions for RTP concerns.

Survey responses showed different medians for estimated percentages for problematic outcomes (80%) versus beneficial outcomes (10%). Further, the number of problem items (*M* = 9.57, *SD* = 1.87) was more highly endorsed by teams than the number of items listing benefits (*M* = 4.43, *SD* = 3. 39), suggesting RTP was more often problematic than beneficial. Interventions estimated to be effective in treating negative RTP outcomes with 80% or greater response rates are reward systems, social skills trainings, active supervision, and bully prevention. These study findings are different from previous research, which concluded that RTP was harmless and/or beneficial to students, and might be due to environmental differences (school vs. community). It might be estimated that schools should monitor or prevent RTP to avoid problems, such as aggression, bullying, and poor peer relationships. Programs frequently used by teams targeted skill acquisition through social skills training, anger management, and bully prevention.

This study provides understanding to the extent RTP should be addressed in schools. School problem-solving teams report that RTP can be problematic in school settings; however, it can be prevented with school-wide intervention and intervened with individual and small-group interventions.

(87 pages)

PUBLIC ABSTRACT

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than beneficial outcomes. Additionally, the greater number of problem items were endorsed by teams than the number of benefit items, suggesting RTP is more often problematic than beneficial. Interventions estimated to be effective in treating problematic RTP outcomes are reward systems, social skills trainings, active supervision, and bully prevention. These study findings are different from previous research, which concluded that RTP was harmless and/or beneficial to students, and might be due to setting differences (school vs. community). It might be estimated that schools should monitor or prevent RTP to avoid problems, such as aggression, bullying, and poor peer relationships. Programs frequently used by teams targeted skill acquisition through social skills training, anger management, and bully prevention.

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CHAPTER I

INTRODUCTION

Safety and violence issues are a continued concern in the school setting. Sugai and Horner (2002) cited bullying and violence as common concerns that appear to be increasing each year. Given this concern, school-based problem-solving teams are increasingly being organized in school settings to plan and support the school-wide implementation of empirically based techniques to assess, prevent, and change unwanted behaviors while achieving important student social and learning outcomes (Sugai & Horner, 2002). One potential precursor to violent or aggressive behavior in the school setting is rough-and-tumble play (RTP). Although rough play has been defined as physical play that is not harmful in nature (Humphreys & Smith, 1987; Pellegrini, 1993), definitions of RTP in the literature closely resemble aggressive behaviors. Yet, the extent that RTP should be addressed when implementing behavioral programs in school settings has not been well researched (Pellegrini & Smith, 1993; Reed & Brown, 2001). RTP has also been a controversial topic in the literature for years due to mixed findings on functions of RTP (Reed, 2005). Results from some studies indicate that participation in RTP may be functionally relevant for social adjustment and physical development (Pellegrini & Smith, 1993). Alternatively, results from other studies indicate that rejected children perceive RTP as a form of aggression and their participation in RTP may lead to incidences of real fighting or sometimes injury (Brehm & Doll, 2009; Pellegrini, 1988, 1989; Reed & Brown, 2001). Despite developmental support for RTP, it is still unclear whether rough play is appropriate in school settings.

Rough play that leads to aggression or injury may be disruptive to the school recess climate. When observing 86 children between ages eight to eleven during recess, Boulton (1996) found that boys engaged more frequently in RTP that resembles fighting than girls who were more likely to engage in RTP chasing behaviors. This observational data also suggested that especially for boys RTP may lead to increased frequencies of fighting. This conclusion may be relevant to school safety issues considering that a greater number of boys engage in all forms of RTP than girls (Jarvis, 2007). Furthermore, environmental conditions may increase the likelihood of RTP occurrences on school playgrounds (Smith & Hagan, 1980).

If RTP is found to be disruptive to the school recess climate then it will be important to determine how to best intervene with RTP behaviors. In order to appropriately assess and attend to problematic RTP school personnel will need to distinguish between RTP and aggression, recognize when RTP becomes a problem, and respond with rules and interventions that maintain a safe recess environment. This task would likely be difficult because inconclusive findings on RTP functions are largely influenced by inconsistent operational definitions of RTP that do not clearly distinguish RTP from aggression (Boulton, 1996; Jarvis, 2007). In general, RTP constitutes a range of playful yet somewhat aggressive behaviors such as wrestling, hitting, tripping, chasing, grabbing, or pushing (Pellegrini, 2005). While some research has suggested that intention to hurt is a distinguishing factor between aggression and RTP (Pellegrini, 1989; Reed & Brown, 2001), other researchers conclude that this would not consistently prevent harm (Sutton-Smith, 1997). Further, problematic behaviors resulting from rough

play may be a school-wide issue as well as an individual student problem. Brehm and Doll (2009), for example, suggest that school climate may be enhanced with intervention programs that teach and promote cooperative play, which is likely incompatible with RTP.

School-wide positive behavioral support (SWPBS) is one collaborative approach to developing effective interventions for problem behavior that has received empirical support in recent years for promoting safety by implementing behavioral intervention strategies to promote socially acceptable behaviors (Sugai & Horner, 2002). This approach was developed based on findings that teachers and administrators' immediate harsh disciplinary reactions to antisocial behaviors often increased rather than decreased the amount of problematic behavior and failed to teach students appropriate behaviors (Sugai & Horner, 2002). A positive behavior approach focuses on replacing undesired behavior by altering environments to make problem behaviors less effective and relevant while making desired behavior more functional by teaching and rewarding appropriate behaviors (Sugai & Horner, 2008).

To address all levels of behavior problems, the SWPBS model is based on a tertiary model that includes assessment and positive intervention strategies to address behavioral concerns for the entire student population, for classroom student populations, and for targeted groups or individuals (Hieneman, Dunlap, & Kincaid, 2005). For the first intervention tier in this model (Tier I), the effects of school-wide and class-wide systematic intervention efforts on the improvement and maintenance of desirable social behaviors and safe school climates are evaluated for the entire student population

(Horner, Sugai, Todd, & Lewis-Palmer, 1999). Ideally, a Tier I effective program would result in 80% or more of the student population consistently exhibiting appropriate behaviors. The remaining 20% of the students would then be provided with a Tier II level consisting of more intensive classroom or small group intervention to help create engaging learning environments that minimize disruptive behavior (Hieneman et al., 2005). By addressing the needs of most students in Tier I and II there should be only a few students (e.g., 5%) that would further require more intensive intervention at the individual level, which is known as Tier III. Because of the relatively small number of students who need Tier III interventions, educators are able to take a problem-solving approach to address specific student needs, target behaviors, and skill deficits (Knoster, 2000; Scott & Nelson, 1999). This type of tiered intervention approach is desirable for addressing aggressive behavior and its precursors, considering that antisocial behavior problems are likely to become school-wide concerns.

It is currently unclear how often RTP leads to aggression in school settings and if it is a highly rated school concern. If school teams rate RTP as a concerning behavior that leads to problematic behaviors then it will be important to identify appropriate SWPBS intervention information. Important information for educators would be at which tiers RTP needs to be targeted and which interventions have successfully targeted RTP. Thus, the aim of this proposed study is to explore SWPBS teams' perspectives and practices to address RTP in the school setting.

CHAPTER II

LITERATURE REVIEW

RTP is a specialized form of play that some children and youth often engage in with parents or peers (Flanders et al., 2010). Although many studies have investigated RTP with caregivers, not many studies have focused on RTP with peers in the school setting. Given that the effects of RTP occurring in school settings may differ from RTP in home settings, the following review of this literature will present a discussion of this literature on the range of operational definitions and behaviors characteristic of RTP and the positive and negative functional outcomes of RTP in school settings for elementary children. Further, because it is unclear how often RTP is related to aggressive behavioral problems in school settings and how problems related to RTP would be best addressed in a SWPBS model, a review of empirically based studies on interventions to prevent or reduce aggression in the recess setting will also be presented.

Definition of Rough-and-Tumble Play

Smith (1982) described RTP as a quasi-agonist child-play behavior distinct from aggression. Although many researchers have also regarded RTP as a nonproblematic play behavior, researchers have often struggled with defining how RTP differs from aggression. As a result, there is a wide range of behaviors used to define rough play. Humphreys and Smith (1987) initially defined RTP as good-natured play fighting and chasing when observing RTP that occurs in children's play. After observing 94 elementary students during school recess for a period of 7 months, the authors concluded

that RTP play may be best categorized by the following behaviors: tease, hit and kick at, poke, pounce, sneak up, carry child, play fight, pile on, chase, hold, and push. Additionally, the authors defined aggression as separate from RTP by the following behaviors: hit with closed hand, frown, take, grab and push, fixate, swear at, and insult. Boulton (1991a) further distinguished between RTP and aggressive fighting by the absence of insults or negative statements, behavioral distress or annoyance by one or more participant and/or the presence of regret signs if fighting caused distress. Finally, Boulton (1991b) divided RTP into two separate categories: fighting and nonfighting. Fighting RTP was defined as the following behaviors: boxing/hitting, flailing, grappling, Kung-Fu, and restraining. Nonfighting RTP included behaviors such as chasing, colliding, grabbing at, hitting-and-running, and running past someone in its definition.

To specifically examine behavioral definitions of RTP used in studies conducted in school settings, we reviewed definitions of RTP used in eight studies that explored the prevalence, development or effects of RTP in elementary school settings. This brief review indicated the following variety of behavioral definitions for RTP: Five studies (63%) used chasing, four studies (50%) used hitting, three studies (37.5%) used play-fighting, and two studies (25%) used teasing, poking, pouncing, sneaking up, carrying another child, piling on ("dog-piling"), holding, pushing, boxing, and restraining. Grappling, "Kung Fu," children colliding with one another, grabbing at, running past, flailing, wrestling, and a smiling facial expression were behaviors that were reported in only one of the eight reviewed studies (12.5 %). A few reviewed studies included other factors when defining RTP. For example, episode length, intensity, and presence of regret

were each used in one reviewed study (12.5%) as a distinguishing factor of RTP from aggression. Two studies (25%) considered staying together after a rough play episode as a behavioral outcome that distinguishes RTP from aggression.

In sum, although researchers have explored differences between RTP and aggression, each study uses different operational definitions for RTP and list behaviors similar to aggression. Some but not all studies defined the distinction between RTP and aggression as the absence of a negative intent towards others as play and negative reactions from playmates as aggression. The assortment of physically aggressive behaviors used to define RTP in the literature may also make it difficult to accurately assess outcome differences between RTP and aggression.

Prevalence

Although the definition of RTP may vary, a few studies have been conducted to investigate frequencies of RTP across ages, settings, and situations. Humphreys and Smith (1987) estimated that RTP amounts for approximately 10% of elementary school play behaviors after observing 94 children during recess settings. Several observation studies conducted in children's school settings have found that RTP was most prevalent in preschool- and elementary-age children (Tannock, 2008). Moreover, some observational studies of RTP in school playground settings indicated that RTP frequency peaks in the second grade and that RTP is highly gendered with boys participating more than girls (Jarvis, 2007; Reed & Brown, 2001). For example, after observing 16 girls and 17 boys during recess at a nursery school, Jarvis found that 12% of girls participated in

RTP in single gender play, while 67% of single gender interactions among boys involved RTP.

Functional and Developmental Role of RTP

Given that RTP is a common form of play that is similar to undesirable aggressive behaviors, the functional and developmental role of RTP activities has been a major controversial issue in the literature. Piagetian theory suggested that RTP provides cognitive development for exercise play, symbolic play, games with rules, and games of construction (Reed & Brown, 2001). Four additional theories have warranted attention to explain the function of RTP: (a) the surplus energy theory, (b) the practice fighting hypothesis, (c) the social dominance hypothesis, and (d) the self-regulation hypothesis.

The energy surplus theory, which was initially proposed by Herbert Spencer (1898), purported that children participate in RTP to "blow off steam." Spencer suggested that children learn to suppress their physical energy during classroom time which then builds up to be released during recess time. Smith and Hagan (1980) explored the surplus energy theory as a plausible explanation of a function of RTP in an experiment conducted with preschool students. Preschool students (N = 36) were systematically kept in their classrooms for different lengths of time, and were then let outside to play. This experimental process was conducted with morning classes and afternoon classes. As predicted, the preschoolers who were kept inside for 90 minutes participated in significantly more vigorous play than the preschoolers who only spent 30 minutes in class before let outside to play. Moreover, for the classes kept inside for 90 minutes, the

morning class participated in 15% more vigorous play and the afternoon class showed 25% more. This analysis found that time spent inside was a greater predictor of high vigorous play than gender, class attendance, outside temperature, and rainy/sunny weather.

Groos (1901) later criticized Spencer's surplus energy theory and developed the practice-fighting hypothesis. The practice-fighting hypothesis proposes that RTP is an evolutionary/instinctive activity that affords children opportunities to develop the muscles and abilities requisite for fighting. In addition to the practice fighting hypothesis, Boulton (1996) suggested that social dominance theory was another appropriate hypothesis for RTP. This theory suggests that children engage in rough play to establish social dominance among their peers. Boulton postulated that boys may engage in RTP more often than girls, because it is an activity that inherently leads to fighting and dominance exertion that may be more preferred by boys.

Boulton (1996) tested both the practice fighting and the social dominance hypotheses by observing 86 eight- to eleven-year-old students play behaviors during recess. He found that boys and girls had similar frequencies of observed RTP behaviors with the exception that boys participated in wrestling and fighting behaviors more often than girls. Boulton (1996) concluded that the practice fighting and the social dominance hypotheses are plausible functional hypotheses for RTP.

Paquette (2004) proposed that RTP is a developmental activity in which children learn to self-regulate their aggressive behaviors through RTP activities with their parents, referred to as the self-regulation hypothesis. Flanders, Leo, Paquette, Pihl, and Séguin

(2009) specifically examined the relationship between RTP and aggression when observing videotaped play between fathers and their 2- to 6-year-old child (*n* = 85). Fathers also completed questionnaires on the frequency of RTP with the child and the frequency of the child's physical aggression. Results revealed that when fathers are the dominant play partners in RTP play, children were better able to regulate their physical aggression. Conversely, when fathers let their child dominate RTP activities their child does not learn social boundaries and are less skilled in regulating aggressive behaviors. In a 5-year follow up study, Flanders and colleagues (2010) found that RTP between father and child (*n* = 34) in preschool years was associated with higher increases of father ratings of physical aggression and worse ratings of emotional regulation for children whose fathers were less dominant play partners. Although these findings suggest that RTP may be an important developmental activity for learning to self-regulate aggressive behaviors in the home setting, it is difficult to conclude the degree that this carries over to school settings.

Despite researchers' attempts to understand the functions of RTP, the literature on functional RTP is limited. In part, the possible functions of RTP may lack research because of concerns about RTP's aggressive appearance and potential negative outcomes (Reed & Brown, 2001). While limited, research suggests there may be positive and negative outcomes of RTP and allowing some level of RTP may be beneficial to children. The following section will discuss the literature of RTP outcomes in school settings, and further describe potential advantages and disadvantages to RTP in the school setting.

Outcomes of Rough Play in Elementary Schools

Although theories have suggested that RTP functions to develop cognitive, emotional, and social needs, its aggressive-like behaviors have sparked debate about the benefits and risks of allowing RTP in school settings. Given that school-based RTP has mainly been researched in elementary schools, this section will primarily review conclusions of RTP studies that have been conducted in elementary school settings.

Because of the complex nature of RTP, a few studies have investigated the degree that student characteristics influence positive or negative social effects of RTP. Pellegrini (1988), for example, examined differences in RTP and aggressive play behaviors between peer rated popular and rejected students. In this study, kindergarten, second, and fourth grade children (N = 94) completed the Interpersonal Cognitive Problem Solving (ICPS) survey to determine student's problem solving styles and a sociometric procedure (see method in Coie, Dodge, & Coppotelli, 1982) to determine each student's popularity status. Teachers also completed the Antisocial Behavior Questionnaire for each participant. From these results, neglected (n = 16) and popular students (n = 26) were identified and observed during recess for RTP. Results from this study suggested that the outcome of RTP is dependent on a child's social acceptability among peers. Specifically, the occurrence of aggression following an RTP episode occurred significantly more frequently for rejected children than popular children with aggression occurring 28% of the time following RTP for rejected children and .1% of the time for popular children. Alternatively, occurrence of participating in games with rules following an RTP episode occurred significantly less frequently for rejected children than popular children with 135

occurrences among rejected children and 273 occurrences among popular children. Based on student and teacher surveys and playground observation, the socially rejected children were more likely to be aggressive whereas socially popular children were more likely to have appropriate play behaviors. Pellegrini postulated that socially rejected elementary school students' tendency toward aggressive interactions may put them at risk for developing antisocial tendencies in later life.

Pellegrini (1989) conducted another study to explore differences in rejected and popular rated children's interpretation of RTP or fighting incidences. In this study, a sociometric procedure was administered to kindergarten and second graders that identified 26 popular and 16 rejected students. These identified students were then observed on the playground for eight months for 25 minutes a day by investigators unaware of the students' sociometric ratings. Observers recorded student's RTP and fighting behavior and reactors' (peers and the adults) behaviors, location of the RTP behavior, and the number of boys, girls, and adults present. Using sequential-lag analyses, the authors found that the transition and probability of RTP leading to aggression was statistically significant for the rejected children ($Z = 4.00$), but not for the popular children ($Z = 1.08$). Conversely, the transition and probability of RTP leading to games-with-rules was statistically significant for the popular students ($Z = 2.63$), but not for the rejected students ($Z = -1.79$). The identified students individually viewed eleven videotaped incidents of either RTP or fighting and were interviewed. An analysis of student interviews showed that popular children were significantly more accurate than rejected children in identifying RTP behaviors and aggressive behaviors ($t = 2.29$, $p <$

0.05). Rejected children tended more frequently to identify RTP as aggressive behaviors. From these results, Pellegrini concluded that rejected children's RTP behavior was typified by aggression, and popular children's RTP behavior was typified by playful provocation and roughhouse behaviors that were often part of a group developed game with rules.

A few researchers have explored the extent that the occurrence and the social effects of RTP may depend on children characteristics (Boulton, 1991b; Humphreys & Smith, 1987). Boulton, for example, examined the effect of peer rated popularity and perceived student strength on initiating RTP occurrences with peers. Student strength was examined based on the assumption that choosing to engage in RTP with a partner who is closely matched in strength may be an attempt to obtain a competitive level of RTP to allow practice of fighting skills whereas choosing weaker partners may be related to a need for social dominance. Boulton observed 86 elementary students in two classes with 8 year old students and two classes with 11 years old students at two schools. Each student participated in a sociometric rating by placing pictures of classmates under a "well-liked," "in-between," and "disliked" column and a peer strength card sort rating activity placing pictures of classmates under a "strong," "in-between," and "weak" column. Following this assessment peer-play interactions that included aggression/ fighting and nonfighting forms of RTP were observed for a one 35-minute recess session for each student. Partners in RTP were observed as well as the initiator of RTP between the partners. Strength and sociometric ratings of both classes and partners were examined per partners of RTP. Results from the student popularity ratings, strength ratings, and

recess observations showed that in each class, there were no significant differences found between each child's liking of their partners in fighting and nonfighting forms of RTP for both initiators and recipients. Students also liked their RTP partners in other play situations (i.e., sociable, rule games, and role play) more than chance predicts. Alternatively, differences were found when examining the initiators, recipients, or class perception of strongest partners between the older and younger classes. For the two younger classes the initiators of RTP perceived themselves as stronger than their chosen partners, but there was no clear trend for the initiators of the two older classes. Yet, the recipients of RTP also perceived themselves as stronger than their partner in the two 1l-year-old groups and one of the 8-year-old groups. The class ratings of both old and young groups did not perceive the initiators or recipients as either stronger or weaker than their partners. Thus, based on class perception data, children played with peers who liked each other and were closely matched for strength. One plausible explanation for this data is that general liking of peers determines when students initiate RTP with their classmates more so than a need for social dominance, but RTP may possibly provide fighting practice with an equal partner.

In a later study, Boulton (1996) examined RTP differences between genders. In this study, video-taped observations during recess were collected with 86 elementary aged youth, ages 8 to 11, at two schools that were tolerant of RTP. Results showed that the boys participated in RTP significantly more frequently, F (1, 84) = 8.3, $p < .01$, and significantly initiated more chase behaviors, F (1, 84) = 10.9, $p < .001$, than girls. No age differences were found within each gender. Boulton (1996) suggested that boys may use

RTP more often than girls because boys have more naturalistic need for practicing fighting and establishing social dominance than do girls.

Student perception of the benefits of RTP has also been examined in a few studies. For example, Reed and Brown (2001) videotaped all RTP behaviors for 10 days at an air force military base youth center for elementary school age children. A total of 3 hours with 119 episodes of RTP was observed between seven male students between 6 and 9 years old. The seven boys were then shown a few sections of the videotaped behaviors and were interviewed about their observations. From observations and student interviews, several emerging positive themes of RTP included student confirmation of close friendships with RTP partners, frequent labeling of RTP as fun, as a time to be with these friends, and as a game with rules. Moreover students seemed to be able to identify between angry and playful gestures and facial expressions and were observed to frequently engage in friendly arm linking, back patting, or hugging. Interestingly, while only one student injured his ankle during one of the RTP episodes, several boys reported that teachers did not like them to rough play because someone may get hurt.

In another study on student perception, Tannock (2008) interviewed 11 educators and 17 preschoolers to explore perceptions and feelings about RTP. The interviewers asked educators and children questions similar in content but adapted to child or adult level of understanding. For example, the researchers asked educators what they think the children learn when engaging in RTP and asked the children what they thought about RTP. Based on interview reports, Tannock found that the general opinion of both teachers and preschoolers was that RTP was a harmless activity, and viewed by educators

as an activity that that aided children's physical development.

In sum, while there are limited data, a few studies suggest that RTP may lead to problem behavior. Student and teacher surveys and recess observation data suggest that RTP is more associated with problem behaviors for boys (Boulton, 1996), for socially rejected children (Pellegrini, 1988), and for children who feel they are the dominant play partner (Boulton, 1991b). These findings are contrasted by studies conducted in youth center (Reed & Brown, 2001) and preschool (Tannock, 2008) settings which suggest positive RTP outcomes. These data suggest that setting may be a factor in RTP outcomes, and that negative RTP outcomes may be more common in elementary school settings.

Limitations

Although limited, there is preliminary support indicating that RTP has some reported developmental benefits and may be viewed as a positive experience by students. Alternatively, there is evidence of RTP leading to aggressive play or injury for some students. Given this limited data it remains unclear the degree that RTP would disrupt a positive school climate that would warrant some level of preventative or reactive intervention. One limitation to the studies on rough play pertinent to this issue is that there is difficulty establishing the distinction between RTP and other play behaviors. Some research has described that RTP leads to aggressive behavior, but it has been difficult to define how RTP is separate from aggression. Because different operational definitions of RTP are used in studies, each study is targeting different behaviors making it difficult for a clear results comparison. Given these mixed findings, it is clear that

schools need to assess whether or not RTP is leading to problem behaviors that negatively influence school safety.

Another limitation of the current literature is that previous RTP research has not commonly proposed or examined solutions, preventative actions, or interventions even when study results identified RTP problems. Few articles, if any, have addressed the best practices for preventing problem behavior related to RTP in school settings. If preventative or reactive intervention is needed to address RTP in school settings, it is important to briefly discuss recent changes in school-wide assessment and intervention approaches that provide a systematic process to evaluate and provide intervention needs. Thus, a brief review of current best practice intervention approaches being implemented in schools will be discussed in the following section.

School-Wide Positive Behavioral Support Model and Aggression

School-wide positive behavior support (SWPBS) approaches are considered to be best practice in school settings to assess and address a variety of behavior problems dealt with by schools (Simonsen, Sugai, & Fairbanks, 2007). The SWPBS model offers school faculty effective methods, such as positive feedback, social skills instruction, and active supervision, for modifying behavior and encouraging appropriate student behavior. This model emerged as an alternative approach to replace the traditional harsh “crack down” procedures to decrease disruptive behaviors that often counter-productively increased antisocial behaviors and hostile student-teacher interactions, and decreased academic success. Moreover, given the strong research base for support programs which promote

and reinforce appropriate behavior to reduce behavior problems for at-risk students and students with disabilities, Individuals with Disabilities Education Act (IDEA) purports the consideration of positive behavioral support interventions for any student whose behavior interferes with that student's learning or that of others (Turnbull, Wilcox, Stowe, & Turnbull, 2001).

Key components of school-wide positive intervention approaches include a school-based problem solving team to evaluate and maintain the program that includes well-defined behavioral expectations that are directly taught to students, followed by an intervention system that acknowledges appropriate behaviors and establishes discouraged inappropriate behaviors (Colvin, Kameenui, & Sugai, 1993; Horner et al., 1999; Ingram, Lewis-Palmer, & Sugai, 2005). The function of school-based problem solving teams is to identify problems, analyze data, track behavior changes with interventions, and, in accordance with IDEA, to ensure that schools respond to individual differences and encourage appropriate school behavior (Bahr & Kovaleski, 2006). These teams are most effective when composed of specialists who receive continually training on progress monitoring and intervention techniques (Iverson, 2002; Simonsen & Sugai, 2007). School-wide data are collected and analyzed to monitor behaviors and determine how school-wide, class, small group, or individualized interventions should be implemented or changed to appropriately address behavioral concerns (Kovaleski & Pedersen, 2011). Intervention systems are developed to positively support the entire school population, groups of students that may require more focused intervention, and supports for individual students with challenging behavior. Implementation of school-wide systems of

positive behavior support that teach and reinforce desired behaviors have been found to decrease office discipline referrals and problems including aggression in specific settings, such as halls, playgrounds, and cafeterias (e.g., Eber, Sugai, Smith, & Scott, 2002; Kartub, Taylor-Greene, March, & Horner, 2000; Lewis, Powers, Kelk, & Newcomer, 2002; Sprague et al., 2001; Sugai & Horner, 2006). Importantly, an increase in academic achievement was another discovered benefit after implementation of a SWPBS model in several studies (Algozzine & Algozzine, 2009; Lassen, Steele, & Sailor, 2006; Muscott, Mann, & LeBrun, 2008).

The SWPBS model was a promising model for positively addressing different problem behaviors, including RTP that may lead to aggression. It is currently unknown what would be done to prevent RTP from developing into problematic behavior, especially in school settings. The literature on interventions on the prevention or reduction of aggression is a closely related literature that may suggest some guidance to what interventions may be beneficial for preventing or reducing aggressive RTP outcomes. Thus, the following section will present a literature review of interventions addressing aggression.

Interventions Addressing Aggression

The literature, thus far, has not addressed specific interventions that should be used in cases of problematic RTP. Because of the similarities of RTP behaviors and outcomes to aggression, it appears beneficial to review interventions that have worked for reducing aggressive behaviors in school settings that may also be beneficial in reducing

problematic rough play. To summarize current research on effective interventions to reduce aggression in the school setting, this section will highlight five meta-analyses of school-based interventions addressing aggressive behavior. Each review used effect sizes to compare the results of the experimental interventions to control groups.

Park-Higgerson, Perumean-Chaney, Bartolucci, Grimley, and Singh (2008) conducted a meta-analysis of 26 studies between 1977 and 2004 that included randomized controlled trials to investigate the effects of school-based interventions on the reduction of external aggression. Five program characteristics—(a) theory-based, (b) selective, (c) multiple-approach interventions, (d) targeting younger students (i.e., third grade or lower) programs, and (e) specialist (i.e., personnel from outside of the school) implemented programs are stronger—were investigated and hypothesized to have stronger intervention effects on reducing violence than nontheory-based, universal, single-approach prevention programs that targeted older students and were implemented by school teachers. In this meta-analysis, intervention outcomes were defined as change in externalizing, aggressive or violent behavior and the type of interventions implemented to obtain behavioral change included education, strategies to improve social skills, or changing the environment. No significant mean differences between types of intervention programs and control groups were found (Mean *ES* = -0.09, 95% CI = -0.23 to 0.05, with heterogeneity *p*, .00001). Only a small mean effect size was found for single approach (Mean *ES* = 0.15) programs. Specialist implemented (Mean *ES* = -0.07), teacher implemented (Mean *ES* = -0.03), theory based (Mean *ES* = -0.05), nontheory based (Mean *ES* = -0.12), younger student targeted (Mean *ES* = -0.05), older children targeted

(Mean *ES* = -0.1), and multiple approach (*ES* = 0.06) programs had no significant mean effect sizes. This study provided information about intervention characteristics that might influence the decrease or increase of aggression in school settings, but only by small mean effect sizes.

Gansle (2005) conducted a meta-analysis of 20 peer-reviewed articles between 1981 and 2003 reporting intervention effects on externalizing anger to investigate specific intervention components that may influence intervention results. Schools were the intervention setting for 75% (*n* = 15) of the articles. Anger was evaluated based on rating scales for 75% of the articles although a few used direct observations, interviews, questionnaires, surveys, record reviews and peer nominations. Overall, the mean effect size between intervention and control groups related to reducing anger is .31 and the largest mean effect size found for reducing anger externalizing behaviors is .54. Most reviewed interventions consisted of a multiple component package with a mean of five components with discussion, role play, practice, and modeling as the most common components. Moreover, greater intervention effects were found as time that the intervention was implemented increased and more behavioral activities were included (i.e., activities practice, modeling, contracting, rewards for compliance, rewards for performance, role play, performance feedback, and goal setting). Greater effects were also found with socially focused intervention packages (i.e., communication skills such as making eye contact with others, social skills, and social problem solving) in comparison to a self-focused intervention (i.e., recognizing and labeling emotions, identifying cues or triggers for emotional responding, identifying aspects of anger, cognitive self-control

skills, relaxation, visualization, and imagery).

To investigate the effects on prevention of aggression, Hahn and colleagues (2007) conducted a meta-analysis of 53 articles that specifically examined the effects of universal school-based intervention programs that reduced student aggression or violence. Universal programs implemented in prekindergarten, elementary, middle, and high schools in low SES or high-crime-rate areas were included in this study. For this study, universal programs were defined as a program teaching all students in a school or grade level skills to reduce aggressive or violent behavior including emotional self-awareness, emotional control, self-esteem, positive social skills, social problem solving, conflict resolution, and team work. Results showed that the median relative reduction in violent behavior for all students across all grades was 15.0%. In addition there was a 29.2%, 7.3%, and 18.0% relative reduction in violent behavior among high, middle, and elementary school students, respectively. Similar relative reductions in violent behavior, ranging between 14.9% and 18.0%, were found in schools consisting of more than 50% White, Black, or Hispanic student populations. All school program intervention strategies (e.g., informational, cognitive/affective, and social skills building) reported a reduction in violent behavior. Further, no relationship was found ($r < .017$) between effects and program frequency (e.g., sessions per week), duration (e.g., in months), or follow-up.

Wilson and colleagues conducted two meta-analyses to further investigate school-based interventions for aggressive and disruptive behaviors. Wilson, Lipsey, and Derzon (2003) first conducted a meta-analysis of 221 studies that used either an experimental, quasi-experimental, or pre-posttest design to examine changes in aggressive behavior

over time in research-oriented demonstration programs and practice-oriented school implemented program. Although the intervention characteristics varied, 67% administered interventions to groups, 61% of the programs were implemented less than 20 weeks, 52% implemented the program once or twice per week, and 67% involved less than 50 hours total contact time. Studies were included that assessed at least one aggressive behavior outcome, such as fighting, bullying, person crimes, aggressive behavior, behavior problems, conduct disorder, or acting out. This outcome was primarily assessed using teacher (50%) and student (23%) reports using multiple-item scales. The authors, however, noted a limitation that most outcome measures targeted aggressive behavior that included an evaluation of interpersonal concerns, disruptiveness, acting out, and other forms of negative behavior problems that were not aggressive. Finally, treatment modalities in the studies included academic services (2%), classroom management (15%), therapy or counseling (11%), social competence programs with cognitive-behavioral enhancements (28%), social competence programs with no cognitive-behavioral enhancements (30%), multimodal (7%), and peer mediation (1%).

Overall, there were more research-oriented than practice-oriented programs. Moreover, the research-oriented programs produced an estimate of .25 for the mean effect size whereas the practice-oriented programs produced a smaller estimate of .10 for the mean effect size on aggressive behavior. Only social competence programs with no cognitive-behavioral enhancements and therapy or counseling were included in the practice-oriented programs. Data indicated effective results for academic services (Mean *ES* = .67), classroom management (Mean *ES* = .43), therapy or counseling (Mean *ES* =

.43), social competence with cognitive-behavioral enhancements (Mean *ES* = .37), social competence programs with no cognitive-behavioral enhancements (Mean *ES* = .33), multimodal (Mean *ES* = .15), and peer mediation (Mean *ES* = .18). Interventions demonstrated more positive change for high risk students with aggressive activity (r = .26) than for low risk students living in high crime neighborhood (r = .13), and general populations of students with no risk indicators (r = .09).

To sum these findings, the authors highlighted the interesting finding that child factors (e.g., high risk, low risk) did have statistically significant influences on outcome effects ($p < 0.05$). Additionally, strategies that directly targeted aggressive behavior, such as therapy and social competence training, had similar results for managing aggression when compared to indirect strategies (e.g., academic services and classroom management).

To update the data presented in the above study, Wilson and Lipsey (2007) more recently conducted a meta-analysis of 249 studies of school-based programs that are aimed to reduce aggressive or disruptive behaviors using the same definition of aggression in the previous study. Program characteristics similar to the Wilson and colleagues' (2003) study were found in this review. That is, 77% of the intervention programs were administered to groups, 62% of the programs were implemented less than 20 weeks, and 65% implemented the program once or twice a week. Aggression outcomes were primarily assessed by teacher (48%) and student (22%) reports using multiple-item scales. The most common and effective approaches in the reviewed studies were universal programs (31%) provided to all students in a classroom, and pull out

training (43%) with students identified by teachers for social and disruptive behavior problems. Few studies involved special schools or classes (17%) or comprehensive multimodal programs (8%). Treatment modalities included in the studies included social skill problem solving (39%), social skills training (34%), anger management (29%), behavioral treatment (22%), counseling (21%), academic services (11%), and other cognitive treatment (6%).

Results in this review were analyzed per type of program. Results for the universal programs revealed an overall weighted mean effect size on aggressive/ disruptive behavior outcomes of 0.21 ($p < 0.05$). Although no specific types of intervention programs were significant moderators of the intervention effects (0.06), universal programs consisted mainly of anger management and social problem-solving with social skills interventions, as well as a few behavioral and counseling interventions. Student age (= 0.27) and SES (= 0.21) were significantly associated with mean effect size while controlling for method variables. These results reveal that younger students and students from lower socioeconomic status showed larger reductions in problem behaviors that older students and middle-class students.

When controlling for method variables, the selected/indicated programs showed an overall random mean effect size of 0.29 ($p < 0.05$). Most of these programs were cognitively oriented (32%); however, behavioral strategies (23%), social skills training (20%), and counseling programs (20%) were also common. The student characteristics of risk level (= 0.23) and behavior strategies (= 0.20) were significantly associated with mean effect size at the level of $p < 0.05$. Group treatment (= -0.16), individual

treatment (= 0.17), and program implementation problems (= 0.15) were also associated with mean effect size ($p < 0.10$). These results show that students at higher risk for aggression problems had greater reductions in problem behaviors when treated with behavioral strategies. They further reveal that students treated individually and in smaller groups tend to show greater treatment effects. High levels of accurate program implementation were also predictive of greater treatment effects.

Programs implemented for students in special schools and classes, due to behavioral and academic difficulties, had an aggressive/disruptive behavior mean effect size of 0.11 ($p < .10$). In-class verses pull-out treatments (= -0.38) and implementation problems (= 0.42) were significantly correlated ($p < 0.05$). These results show that special programs have greater effects in reducing aggressive/disruptive behavior when implemented in students' classrooms with minimal implementation difficulties. Finally, the overall mean effect size for multimodal/comprehensive programs was 0.05 and was not statistically significant. While mean effect sizes were not statistically significant, they were larger for programs which had longer treatments, more frequent meetings, and universally implemented. These findings suggest that students treated with universal programs, who receive longer treatment services, or who have more frequent meetings may have greater reductions in aggressive/disruptive behavior.

In sum, multiple approach programs and different treatment modalities for all types of programs—behavioral, cognitive, problem-solving—were very similar in their mean effect sizes. Programs that had more faculty buy-in, greater parental involvement, and targeted students at higher risk for aggressive behavior had greater mean effect sizes.

Because a wide variety of school-based programs seem to help reduce aggressive and disruptive behaviors, Wilson and Lipsey (2007) suggested that schools consider the programs that are the easiest to implement.

These meta-analysis articles illustrate the increasing emphasis of potential benefits of a tiered problem solving intervention program in school settings to decrease problem behaviors such as aggression. Three of the five meta-analyses used the tiers of universal, targeted, and individual as a way to evaluate school-based interventions for aggression. In fact, results from Wilson and Lipsey's (2007) review found that universal and targeted were almost as commonly implemented as small pullout groups with select students. Moreover, the analysis conducted by Park-Higgerson and colleagues (2008) showed that universal interventions had larger mean effect sizes than targeted interventions. These findings suggest that aggression is a problem that is often solved on the school-wide/universal level—where attention to the potential precursors of aggression, such as RTP, may be important when developing treatment programs. Additionally, several reviews (Gansle, 2005; Wilson & Lipsey, 2007; Wilson et al., 2003) suggested specific program components to reduce aggression which may guide intervention planning for any observed problems with RTP in the school setting. While conclusions from these meta-analyses provide important information for developing intervention programs targeting RTP in school settings, several limitations within the literature on school-based interventions for aggressive and disruptive behaviors should also be considered. For example, few studies found positive effects with programs solely implemented by school personnel, and weaker mean effect sizes were found with

younger children when compared to older children.

Summary and Purpose of the Study

RTP has been a controversial topic in the literature for years because of mixed definitions of RTP, the aggressive vs. playful nature of RTP, and mixed findings on positive and negative outcomes. Research has identified RTP as a child play behavior that is commonly observed in school recesses and has some positive consequences; however, research has also found negative consequences in school settings (Boulton, 1991b, 1996; Pellegrini, 1988, 1989). For some students, participation in RTP is associated with the development of social adjustment, social awareness, cooperation, fairness, trust, and social problem-solving skills (Pellegrini, 1995; Reed & Brown, 2001; Tannock, 2008). Alternatively, for other students there are negative outcomes of RTP leading to incidents of real fighting, peer rejection, an increase in aggressive play or injury (Boulton, 1991b; Reed & Brown, 2001).

With the increasing focus on SWPBS approaches in schools to decrease violent and disruptive problem behaviors, evaluating the extent that RTP is disruptive or leads to disruptive behaviors may be warranted. If RTP is allowed in recess settings, then teachers need to recognize when rough play is different from aggression and how to prevent RTP leading to problems so that children are participating in a safe recess environment. Research findings suggest that using the SWPBS intervention model to decrease problematic aggressive behaviors may result in healthier school climates (Simonsen et al., 2007). While much research has been devoted to developing interventions that

decrease aggression, none have directly addressed RTP.

The degree that RTP is problematic verses beneficial in school and recess settings needs to be estimated to determine which level of the SWPBS model may be designed to prevent and address problematic RTP. To date, it is unclear whether or not RTP is problematic or leads to aggression to the extent that schools are implementing or would like to implement universal, group targeted, or individual interventions to prevent or reduce RTP in school settings. Thus, the aim of this proposed study is to explore the extent that school-based teams implementing SWPBS programs report the frequency of RTP, and the positive and negative outcomes of RTP in elementary school settings. Specifically, a survey will be conducted with SWPBS team members to explore the following research questions.

1. What are the estimated percentages of RTP that leads to beneficial and problematic behaviors for students as reported by school-based team members?

2. What types of benefits or problems result from RTP in school settings as reported by school-based team members?

3. Are there specific prevention and intervention programs that teams report they implemented for school-wide, small groups or individuals that addressed RTP concerns?

4. What is the team's estimation of the percentage of students who responded to any reported implemented intervention programs that addressed RTP, anger and noncompliance concerns?

5. Are there training needs to address interventions for RTP concerns and the related problem behaviors in recess settings as reported by school-based team members?

CHAPTER III

METHODS

Participants

Thirty school-based teams implementing a SWPBS in a western state were recruited for this study. Each team participated in a statewide training initiative which focused on implementing SWPBS intervention programs. Schools and districts received personnel and monetary support while participating the 3 years of training. Participants also signed a contract stating the major activities of the school-wide intervention program that school faculty would implement, which included establishing a problem solving intervention team, identifying a school-based coach from team participants, participating in up to 5 days of training activities, and developing and implementing a school-wide action plan. Teams were required to evaluate their intervention programs through screening and progress monitoring methods, and were required to submit these data each month to statewide training initiative trainers.

Given that these school-based problem solving teams were organized to collect and review data to make decisions about program development and progress on student behavior, these teams were recruited to obtain information on RTP and relevant intervention data. Because many of these teams were multidisciplinary—consisting of a variety of staff personnel—it was likely that whole team responses would reflect a variety of perspectives and opinions, and would thus provide valuable survey responses. Furthermore, behavior intervention teams would likely have increased awareness of RTP

occurrences, and reactive and proactive actions they have used to address RTP in school settings.

Team participants were from 12 different districts, although eight teams did not report their school district. Eighty-two teams were sent mailing packets and emails encouraging participation in this study. Thirty of 82 elementary school teams participated in the study, each team completing one survey—achieving a 37% team participating rate; 14 teams (17%) completed survey through the paper-pencil format and 16 teams (20%) completed the survey through the online format. All participating teams problem solved for elementary students (from kindergarten to sixth grade) and one team also met to discuss attending preschoolers. It was reported that the average number team members present when filling out the survey was 5.43 (*SD* = 2.97, Range 1 - 12). Teams also reported that an average of 3.4 different professionals per team (*SD* = 1.77, Range from 1 to 7) that helped complete the survey (see Table 1 for more information).

Instrumentation

Data were collected through a survey developed specifically for this study and its purposes. The survey was completed through two available options: (a) an online survey system or (b) a paper-pencil survey returned by mail (see Appendix A).

The following steps were taken when developing this study's survey. First, a literature review was conducted to determine definitions of RTP and factors that influence outcomes of RTP. A systematic review of literature on empirically supported interventions used to promote appropriate social behaviors and reduce aggressive

Table 1

School Team Composition (*N* = 30)

Team #	No. team members	No. professionals	General education administrator	Special education administrator	School principal	Vice/ assistant principal	General education teacher	Special education teacher	Speech language pathologist	Reading specialist	Math specialist	School psychologist	School counselor	Parent	Other	Other title
Team 1	5	3			X		X						X			
Team 2	1	1					X									
Team 3	10	5	X		X		X	X							X	A. Social worker
Team 4	8	2	X	X												
Team 5	4	4			X		X			X			X			
Team 6	12	7			X	X	X	X		X		X	X			
Team 7	7	7	X		X		X	X	X			X		X		
Team 8	6	4	X		X		X	X								
Team 9	10	5	X		X	X	X					X				
Team 10	3	1					X									
Team 11	7	3			X		X	X								
Team 12	8	5			X		X	X					X	X		
Team 13	10	6	X		X		X	X				X		X		
Team 14	4	4				X	X	X		X						
Team 15	7	6			X		X	X		X				X	X	A. Refocus specialist B. Para-professional
Team 16	3	1					X									
Team 17	6	4					X	X		X					X	A. School culture/climate specialist
Team 18	2	2					X								X	A. Building coordinator
Team 19	5	2			X		X									

(*table continues*)

Team #	No. team members	No. professionals	General education administrator	Special education administrator	School principal	Vice/ assistant principal	General education teacher	Special education teacher	Speech language pathologist	Reading specialist	Math specialist	School psychologist	School counselor	Parent	Other	Other title
Team 20	7	3			X		X	X								
Team 21	2	4			X		X	X					X			
Team 22	6	3	X		X										X	A. Secretary
Team 23	1	1					X									
Team 24	1	1			X											
Team 25	4	4			X	X	X	X								
Team 26	6	4			X	X	X	X								
Team 27	3	3	X				X	X								
Team 28	5	3				X	X	X								
Team 29	2	1	X													
Team 30	8	3				X	X	X								

behaviors during recess was also completed. Second, based on the literature review, an initial survey draft was developed, and piloted with four school psychology graduate students and presented to one personnel trainer from the statewide training initiative. Based on their feedback concerning the initial survey, the graduate researcher then revised the survey to clarify wording and ensure that questions would provide relevant and practical information. The final survey draft had an estimated completion time of 20 minutes.

Survey questions were designed to gather information RTP in public school settings and interventions used for addressing problematic RTP. The final survey had three major sections: (a) general information of teams, (b) problems and benefits of RTP behaviors in the school setting, and (c) interventions used to prevent or address any observed problems associated with RTP. Each section included several questions relating to that particular topic. The items were presented in various formats (yes/no, Likert scale, etc.) to allowed school teams latitude in expressing their experiences, obtain meaningful data, and to facilitate data analysis.

The first section—general team information—asked about number of team members and different professionals completing survey, type(s) of data collected by teams, and tier(s) of school team intervention implementation. This information was used to identify team composition and levels of SWPBS programs implemented in each team's school. To ensure anonymity no individual names were requested. The second section asked teams about their perceptions of RTP in school settings and specific outcomes that are likely to occur when RTP is present. The third section asked teams which intervention

or prevention methods that had been implemented to address problematic RTP at their schools. Interventions identified during the literature review as having utility with violence prevention and aggressive behaviors were listed with brief descriptions and teams were asked to rate (a) at which level(s) (school-wide, small group or individual) each intervention had been implemented, (b) the estimated percent of students responding to intervention (RTI), (c) whether training was wanted, and (d) the behavioral training concern for the intervention training.

Procedures

Prior to the survey administration, the survey was approved by the Utah State University Institutional Review Board (IRB). The survey was then submitted to the statewide training initiative for permission to administer to contracted school teams. Four weeks prior to a semiannual statewide training conference, a personnel member of the statewide training initiative encouraged all contracted school teams to participate in this study through an email that contained the letter of information, the recruitment email letter, a URL link to the online survey system, and the researchers name and contact information (see Appendices B and C). The letter of information stated the study's rationale, purpose, goals, confidentiality information, risks, and benefits. The recruitment email letter, which was signed by two statewide training initiative personnel, further encourage teams to participate, answered possible questions, and stated that participating teams would be entered into a drawing for one of five $100 Amazon.com gift cards.

On that same day, the graduate researcher sent each school team a mailing packet

that contained copies of (a) Survey on the Occurrence of Rough-and-tumble Play in School Settings (Appendix A), (b) the recruitment email letter (Appendix B), and (c) the letter of information (Appendix C), as well as a prestamped and addressed return mailing envelope.

Two weeks later, at the semiannual statewide training conference, the graduate researcher sat at the registration table and answered questions, collected surveys, and reminded teams to complete the survey. Four weeks after this training conference, the personnel member of the statewide training initiative sent a second email that encouraged school teams to participate in the survey study, if they had not done so already.

CHAPTER IV

RESULTS

Survey results were collected to explore school intervention teams' estimations and perceptions of RTP and to appropriately address previously stated research questions. Descriptive statistics (means, standard deviations, frequencies and percentages) were calculated and used as the primary method of analysis to answer the research questions. Results of the survey will be presented for each of the four broad areas examined in this study: (a) brief description of school SWPBS programs, (b) beneficial and problematic RTP behaviors, (c) implementation and effect of intervention programs on RTP outcomes, and (d) training needs to address RTP concerns in recess settings.

Brief Description of SWPBS Programs

To describe the SWPBS program at the participating teams' schools, teams were asked to report each tier level of program currently being implemented and the type of data reviewed by the team. Teams varied in the reported number of tier levels of positive behavioral support intervention programs that were currently being implemented at their school. Of the 30 teams, 27 (90%) reported implementing schoolwide programs, 20 (67%) were implementing classwide programs, 10 (63%) were implementing small groups, and 15 (50%) were implementing individualized programs. The large part of the teams reported all 4 levels (n = 12, 40%) while others reported 3 levels (n = 6, 20%), 2 levels (n = 3, 10%) or 1 level (n = 9, 30%). Table 2 shows the different types of data collected by different school teams.

Table 2

Data Types Collected by School Teams (*N* = 30)

Team #	Office discipline referral records	Rewards for appropriate behavior	Recess conflicts	Absents/ tardiness	Expulsions	Teacher referrals	Point system	Classroo m data	Suspension/in school suspension	Parent complaints	Other	No. data types
Team 1	X	X		X		X			X			5
Team 2	X	X		X		X	X		X			6
Team 3	X	X	X	X	X	X	X	X	X			9
Team 4	X	X	X						X			4
Team 5	X	X	X	X			X	X	X			7
Team 6	X	X	X	X	X	X	X	X	X			9
Team 7	X	X	X	X	X	X	X	X	X			9
Team 8	X	X	X	X		X		X				6
Team 9	X	X	X	X	X	X	X	X	X	X		10
Team 10	X	X		X	X	X						5
Team 11	X	X		X		X				X		5
Team 12	X	X	X	X	X	X	X	X	X			9
Team 13	X	X	X			X	X	X				6
Team 14	X	X		X	X	X		X	X	X		8
Team 15	X	X		X	X	X	X		X	X		8
Team 16			X					X				2
Team 17		X	X				X	X				4
Team 18	X	X				X			X			4
Team 19	X	X		X								3
Team 20	X	X	X		X	X	X		X			7
Team 21	X	X	X			X	X	X	X			7
Team 22	X			X	X	X	X		X			6

(*table continues*)

Team #	Office discipline referral records	Rewards for appropriate behavior	Recess conflicts	Absents/ tardiness	Expulsions	Teacher referrals	Point system	Classroom data	Suspension/in school suspension	Parent complaints	Other	No. data types
Team 23	X	X										2
Team 24	X	X	X	X		X	X					6
Team 25	X	X	X			X	X	X	X			7
Team 26	X	X	X			X		X				5
Team 27	X	X				X	X		X			5
Team 28	X	X				X	X	X				5
Team 29	X											1
Team 30	X					X		X				3
Total	28	26	16	16	10	23	17	16	17	4	0	
Percentage	93	87	53	53	33	77	57	53	57	13	0	

Estimates of Beneficial and Problematic RTP Behaviors

To estimate the degree that RTP leads to beneficial and problematic behaviors for students, teams rated percentage of time that RTP was beneficial to students and then the percentage of time RTP was problematic on a scale of 0% to 100% with discrete values in increments of 10. Teams rated a beneficial effect of RTP for a student at a median and mode of 10%, and rated RTP as problematic at a median of 80% and mode of 90%. According to school-based team members, the estimated percentage of RTP that leads to problematic behaviors is higher than the percentage of RTP that leads to beneficial behaviors. These results suggest that RTP is more often problematic than it is beneficial.

Types of Benefits and Problem of RTP Behaviors

Teams were asked to mark “yes” or “no” to a list of 12 potential benefits and 11 potential problems of RTP that they perceived as outcomes for students who participated in RTP in their school setting. Table 3 shows the types of benefits and problems resulting from RTP in school settings as reported by school-based team members. Eight of the 11 problems were reported by more than 80% of the teams: sent to time out (93.33%), injury (93.33%), student is sent to the office (93.33%), results in student leaving play group (93.33%), student bullies (90%), become aggressive (90%), considered bullying by other students (90%), interferes with organized games (86.67%), and physical fight (86.67%). Commonly endorsed benefits were releases energy (90%) and have a fun time (73.33%). The number of problem items (M = 9.57, SD = 1.87) was more highly endorsed by a team than the number of items listing benefits (M = 4.43, SD = 3. 39).

Table 3

Team Endorsement of Problematic and Beneficial Outcomes of RTP for Students (N = 30)

Outcome	*n*	Percent
Resulting problems		
Sent to time out	28	93.33
Injury	28	93.33
Student is sent to the office	28	93.33
Results in student leaving play	28	93.33
Student bullies	27	90.00
Become aggressive	27	90.00
Considered bullying by others	27	90.00
Interferes with organized games	26	86.67
Physical fight	26	86.67
Less play partners	22	73.33
Seek adult help	17	56.67
Resulting benefits		
Releases energy	27	90.00
Have a fun time	22	73.33
Participate in organized games	11	36.67
Spend more time with friends	11	36.67
Cooperate with each other	10	33.33
Aides physical development	10	33.33
Develops close friendships	10	33.33
Play appropriately	7	23.33
Develops better social skills	7	23.33
Show affection and caring	6	20.00
More liked by peers	6	20.00
Appropriately participates in play	6	20.00

Implementation of Intervention Programs Addressing RTP

Teams also reported specific prevention and intervention programs being implemented for a school, class, small group, or individual students to address RTP concerns. A list of 10 prevention and intervention programs that are implemented to improve student social behaviors at recess was presented to teams followed by a brief description of each program. Teams checked any of three tier levels (school/class-wide, small group, and individualized) for each intervention implemented to address RTP problems in their schools, depending on whether teams were implementing interventions with school/class-wide populations, small groups consisting of identified at-risk students, and at-risk individuals. Teams were also asked to report any programs that they were implementing that were not listed.

All schools reported implementing interventions addressing RTP. For school/ class-wide interventions addressing RTP, Reward Systems (96.7%) was endorsed most frequently, followed by bully prevention (80%), active supervision (70%), and social skills training (56.7%) as interventions endorsed by the majority of school teams. Frequently endorsed small group interventions addressing RTP were social skills training (66.7%), anger management (53.3%), and reward systems (43.3%). Frequently implemented interventions for RTP at the individual level were behavior trackers (86.7%), shortened recess (70%), self-monitoring (66.7%), anger management (56.7%), active supervision (53.3%), and social skills training (50%). See Table 4 for frequencies and percentages of all interventions implemented to address RTP.

Table 4

Interventions Implemented at the Team's School to Address Rough-and-Tumble Play (*N* = 30)

	School/class-wide		Small group		Individual	
Intervention	*n*	Percent	*n*	Percent	*n*	Percent
Active supervision	21	70	9	30	16	53.3
Anger management	10	33.3	16	53.3	17	56.7
Behavior tracker	7	23.3	10	33.3	26	86.7
Bully prevention	24	80	11	36.7	10	33.3
CBT	8	26.7	6	20	12	40
Reward System	29	96.7	13	43.3	15	50
Self-monitoring	7	23.3	7	23.3	20	66.7
Shortened recess	5	16.7	9	30	21	70
Social Skills Training	17	56.7	20	66.7	15	50
Structured recess	13	43.3	5	16.7	5	16.7

Effect of Prevention and Intervention Programs on Rough Play Outcomes

When a team endorsed using any intervention, teams were also asked to rate the effectiveness of the implemented program by marking the percentage of students (on a scale of 0% to 100% with discrete values in increments of 10) who responded to an implemented intervention. Intervention effect was defined as a noticeable increase in the student's positive play interactions and reduced problematic rough play at recess after the intervention was implemented. Nine of the 10 interventions at the school/class-wide level, 4 of the 10 interventions at the small group level, and 5 of the 10 interventions at

the individual level were estimated by teams to result in student response rate of 70% or greater. Interventions estimated to be effective with 70% or more students at all levels were active supervision, bully prevention, rewarding appropriate behavior, and social skills training.

An "ideal" treatment response rate consistent with the tertiary model described by Hieneman and colleagues (2005) is that at least 80% of students respond to the intervention program implemented within a tier level. This percentage of responders would efficiently justify the time and school resources allocated to the selected intervention. Thus, team estimates of students responding to intervention was coded into three categories: 80% to 100%, 70 to 79%, and 0% to 69% of students responding to intervention. Frequencies and percent of teams reporting categories per intervention are presented in Table 5. With 80% to 100% of responders, the most frequently reported successful interventions were rewarding appropriate behaviors (n = 35), social skills training (n = 26), active supervision (n = 27), and bully prevention (n = 25).

Training Needs to Address RTP Concerns in Recess Settings

In addition to exploring schools' intervention implementation for targeting RTP, the extent that teams are interested in training on interventions to address RTP may also indicate a concern and need for this type of program or intervention in school settings. To estimate training needs for interventions addressing RTP in recess settings, teams marked whether or not they wanted additional training for a specific intervention. If teams did not want any training, then no more questions were asked. If teams expressed a want for

Table 5

Frequency of Three Categorical Variables of Student Responding to Intervention for Each Intervention Within School/Class-Wide, Small Group, and Individual Levels

	School/class-wide			Small group			Individual		
Variable	100-80	70	60-0	100-80	70	60-0	100-80	70	60-0
Active supervision									
n	15	2	4	5	2	2	8	4	3
Percent	50.0	6.7	13.3	16.7	6.7	6.7	26.7	13.3	10.0
Anger management									
n	6	1	3	4	3	9	7	3	7
Percent	20.0	3.3	10.0	13.3	10.0	30.0	23.3	10.0	23.3
Behavioral tracker/contracting									
n	4	0	3	5	0	5	11	1	14
Percent	13.3	0.0	10.0	16.7	0.0	16.7	36.7	3.3	46.7
Bully prevention									
n	17	3	4	5	1	5	6	2	2
Percent	56.7	10.0	13.3	16.7	3.3	16.7	20.0	6.7	6.7
Cognitive behavioral treatment									
n	5	0	3	4	1	2	4	3	7
Percent	16.7	0.0	10.0	13.3	3.3	6.7	13.3	10.0	23.3
Rewarding students									
n	15	7	7	8	2	3	8	4	3
Percent	50.0	23.3	23.3	26.7	6.7	10.0	26.7	13.3	10.0
Self-management strategies									
n	1	0	6	2	1	4	4	2	14
Percent	3.3	0.0	20.0	6.7	3.3	13.3	13.3	6.7	46.7
Shortening recess time									
n	4	0	1	2	1	6	4	2	15
Percent	13.3	0.0	3.3	6.7	3.3	20.0	13.3	6.7	50.0
Social skills training									
n	10	1	7	8	3	9	7	2	6
Percent	33.3	3.3	23.3	26.7	10.0	30.0	23.3	6.7	20.0
Structured recess									
n	7	2	4	1	0	4	2	0	3
Percent	23.3	6.7	13.3	3.3	0.0	13.3	6.7	0.0	10.0

training, then they were asked to specify which behavioral concerns should be addressed through trainings for the particular intervention. Choices for behavioral concerns were (a) RTP, (b) anger, (c) noncompliance, and (d) other behavioral concerns.

Of the 30 teams, 13 (43%) teams requested intervention training. Although many teams reported RTP to be problematic, only 11 teams endorsed that they would like

further trainings on interventions to directly target RTP. Slightly more teams wanted training for RTP relative to requests for training to address noncompliance (*n* = 7), anger (*n* = 8) and other problem behaviors (*n* = 9). Table 6 presents the number of teams requesting training for particular interventions to address RTP, anger, or noncompliance. For RTP, 11 teams requested training on social skills training and all other interventions were requested for training by at least two teams suggesting all listed intervention options on the survey were perceived by teams to address RTP.

Table 6

Teams Requesting Intervention Training to Address RTP, Anger, or Noncompliance

	RTP		Anger		Noncompliance	
Intervention	*n*	Percent	*n*	Percent	*n*	Percent
Active supervision	11	36.67	3	10.00	5	16.67
Anger management	9	30.00	5	16.67	4	13.33
Behavioral tracker and contracting	8	26.67	2	6.67	4	13.33
Bully prevention	8	26.67	5	16.67	4	13.33
Cognitive behavioral treatment	8	26.67	4	13.33	5	16.67
Rewarding students	5	16.67	1	3.33	2	6.67
Self-management strategies	5	16.67	5	16.67	5	16.67
Shortening recess time	5	16.67	2	6.67	1	3.33
Social skills training	2	6.67	6	20.00	5	16.67
Structured recess	2	6.67	4	13.33	2	6.67

CHAPTER V

DISCUSSION

Participating in RTP may support children's social adjustment and physical development (Pellegrini & Smith, 1993), but RTP in school settings may lead to unsafe situations such as aggression, bullying or sometimes injury (Doll & Brehm, 2010; Reed & Brown, 2001). Given the conflicting outcomes of RTP, the extent that RTP should be addressed as part of a SWPBS program to maintain a safe recess environment has not been well researched. The goal of this study was to survey a sample of school-based problem solving teams implementing SWPBS programs to explore their perceptions of RTP in school settings and the extent interventions to address RTP are implemented in school settings. Results from the survey may be useful in understanding beneficial and problematic outcomes of RTP in school settings and the intervention options that may be considered to prevent negative outcomes of RTP when planning SWPBS programs. In this section the study findings are discussed as well as limitations and implications for practice and future research.

Beneficial and Problematic RTP Behaviors

Although limited, this study's literature review found preliminary support indicating that RTP has some reported developmental benefits and may be viewed as a positive experience by students. Alternatively, there was evidence of RTP leading to aggressive play or injury for some students. Thus, RTP had been a controversial topic in the literature due to mixed findings on perceived functions of RTP (Reed, 2005);

however, the majority of school-based problem solving teams surveyed in this study perceived RTP as being more frequently problematic than beneficial for students. Teams also endorsed more types of problems that result from RTP than specific benefits. Further, as teams ratings of the percentage of time RTP leads to problems increases, the benefits of RTP decreases. These findings support prior studies suggesting that allowing RTP in school settings more often leads to problematic behaviors than to beneficial behaviors. Teams endorsed several problem areas, such as RTP leading to less friends, interrupted play, and aggressive acts. Similar to team endorsement of negative RTP outcomes, the literature review suggested that RTP may lead to aggressive and antisocial behaviors (Pellegrini, 1988), RTP recess behaviors were more aggressive than playful (Pellegrini, 1989), and that injuries may likely occur during RTP (Reed & Brown, 2001).

These findings are different from some researchers who concluded that RTP was harmless, even beneficial, to students (Boulton, 1991b, 1996; Tannock, 2008); these differences in conclusions may be related to the difference of focusing solely on RTP in elementary school settings. The findings also suggest that teams do not perceive advantages to social adjustment and physical development, despite that Pellegrini and Smith (1993) argued these as functions of RTP. Only a small fraction of teams reported social and physical benefits of RTP such as cooperating, playing appropriately, developing better social skills, developing close friendships, aiding physical development, and allowing of spending more time with friends. In contrast, a majority of school teams reported that students who engaged in RTP had less play partners and resulted in children leaving play group. It is interesting that these two commonly reported

behaviors are similar to Pellegrini's (1988) criteria for identifying the sociometric status of "rejected," suggesting students might get rejected from their peers as an outcome of RTP in school settings. While the survey did not directly ask school teams about sociometric statuses, it appears that RTP is often perceived by teams as being aggressive, bullying, interfering with games, leading to fights, and injury. This finding is similar to previous studies which indicate that children also perceive RTP as a form of aggression and their participation in RTP may lead to incidences of fighting or injury (Brehm & Doll, 2009; Pellegrini, 1988, 1989; Reed & Brown, 2001).

Conversely, Smith and Hagan's (1980) and Groos' (1901) energy surplus/release theories were highly supported by school teams who highly endorsed releasing energy as a beneficial function of RTP. This finding suggests that releasing energy might be a function of RTP. School teams might appropriately decrease RTP by encouraging socially appropriate and safe ways for students to release energy while at recess. This might be done through Brehm and Doll's (2009) suggestion to introduce new activities and games to students on the playground. Schools might find it easy to rotate access to play equipment and occasionally provide special activities for children to engage in. Finding alternative ways for students to release energy may be good practice for reducing RTP behaviors in the school setting.

There are several contributing factors as to why teams reported high levels of problems with RTP. First, the role of the team is to collect and review data to identify problems and they have access to the degree that these types of problems are occurring at their schools. In this study, more than 80% of the teams reviewed at least four types of

data that may help identify RTP problems. However, there was no relationship between the number of data reviewed by a team and the number or percentage of RTP problems reported. Second, teams are problems solvers and thus, RTP would only be brought to the attention of the team as a problem. Handling RTP solely as a problem may distort the benefits of RTP and/or the actual need to address RTP.

Interestingly, the majority of teams perceived that children involved in RTP have a fun time. Although the literature has used “intention to hurt” to distinguish aggressive behaviors from RTP (Sutton-Smith, 1997), perhaps having a fun time suggests another way for researchers and caregivers to make a distinction between RTP from aggression. Observing the lack of facial features indicating fun and laughter may be a more simple and concise way for researchers and school personnel to recognize when RTP is unlikeable and a problem—a task that has been previously difficult (Boulton, 1996; Jarvis, 2007).

Implementation and Effect of Prevention and Intervention Programs on RTP Outcomes

The degree that schools report implementing interventions to address RTP suggests that rough play is a concern in schools that needs to be addressed. One limitation found in the RTP literature review was that previous research had not commonly proposed or examined solutions, preventative actions, or interventions even when study results identified problems associated with RTP. Further, research had not addressed best practices for preventing problem behavior related to RTP in school settings. An important

strength of this study is that the survey specifically addressed interventions, response rates, and training needs for RTP, which have been previously neglected.

By these findings it might be estimated that RTP should be monitored for potential problems or prevented on school grounds to avoid problems such as aggression, bullying and poor peer relationships. These results indicate that school-based problem solving teams are already actively implementing a number of interventions to prevent and address RTP. In this study, all teams were implementing interventions at the school-wide tier which may be due to the fact that this is often the first implementation phase when developing a SWPBS program (Horner et al., 1999). It is enlightening that the number of interventions implemented was lowest, on average, at the small group level. Prior research found that Tier II is often neglected in practice because practitioners and school personnel do not know how to distinguish a Tier II from a Tier III concern (Hieneman et al., 2005). This finding suggests that additional training may be helpful in better targeting students at the Tier II level instead of immediately implementing a more intensive Tier III or individual level.

Additionally, survey results showed that school teams were most frequently implementing supports, such as reward system and social skills training, which suggests that many school teams were following Sugai and Horner's (2008) advice to teach and reward appropriate behaviors as an approach to replace undesired behavior. Moreover, many teams reported that reward systems and social skill trainings were effective (i.e., an 80% or higher response rates) for all levels.

The results also indicated interesting patterns of the specific interventions that

were selected to implement in each level. The hierarchical framework of SWPBS is to provide more intensive interventions to those who are not responding to school/class-wide interventions (Hieneman et al., 2005). Intensity can be defined as the amount of time, resources, personnel, and intervention components (Hieneman et al., 2005). Thus, it was not surprising that interventions used most frequently varied between levels. The frequently implemented Tier I intervention programs included rewarding students, bully prevention, active supervision, social skills training, and structured recess. Interestingly, rewarding students, which may be considered somewhat intensive, was the most common Tier I intervention. However, this outcome may be influenced by the intensive statewide training on school-wide reward systems such as the "Principal's 200 club" (Bowen, Jenson & Clark, 2004).

All teams reported using more than one Tier I intervention to address RTP. This finding might suggest that schools are targeting RTP along with other behavior concerns, which would be congruent with the finding that RTP leads to problematic behaviors. A second conclusion might be that schools are unsure which interventions are effectively addressing RTP concerns at the Tier I level. In this case, guidance concerning which interventions are effective would be important to SWPBS teams' decisions.

Programs frequently used in small groups, or Tier II, appeared to continue to target skill acquisition by implementing social skills training, anger management, and bully prevention. The interventions that were also implemented were reward systems and trackers that can be used to validate and support skill use in natural social environments. Finally, individualized interventions (or Tier III) most frequently employed

individualized trackers and self-monitoring interventions as well as shortened recess. CBT, although not a common choice in any level, was more frequently used for individual intervention relative to small group and school-wide interventions. Further, schools reported using a variety of intervention options to support students with Tier III programs. This pattern of selected interventions suggests that schools choices were more intense in the small groups and individual intervention levels by increasingly focusing on more skills training and tracking behavior.

Although quite a few interventions were implemented, based on teams ratings of student responding to interventions, not all interventions were working as expected. Moreover, the effect of a specific intervention often varied between teams. The efficacy of the school-wide programs that targeted RTP was examined several ways in this study. First, mean ratings of student responding may indicate which interventions were most effective. Second, an intervention that was reported to result in 80% or more students showing a positively response would be considered an effective intervention for the population of students within a tier receiving the intervention. Alternatively, interventions with less than 80% of the students responding as expected would be considered ineffective or in need of further modification. Given that there were no interventions which directly targeted RTP in the literature a more lenient 70% may be used in evaluating interventions' effectiveness.

Only a few differences in the most effective interventions were found between the two outcome approaches. Categorizing intervention effect by the number of student responding at or above 80% very closely matched the interventions that were more

frequently used by schools at the school-wide level. These results suggest that the most used interventions were estimated to be supporting most of the student population as expected at the Tier I level. The mean score of shortened recess, CBT, and active supervision also fell above the 80%.

In general, the mean scores of percentage of student responding to small group and individual intervention were lower than school-wide mean scores, suggesting that the interventions may not be as effectively meeting the needs for the majority of students receiving more intensive interventions. But there are a few distinct trends on the most effective interventions for at-risk students. First, similar to the school-wide results, the most positive effects of the small group interventions were reported for social skills trainings and reward systems, based on both mean percentages and categorical results; these interventions were also the most frequently employed Tier II interventions. Active supervision and CBT were reported to be effective at Tier II, but were used less frequently as small group interventions. Social skills trainings, reward systems, active supervision, and cognitive behavioral treatments may be effective because they fit Sugai and Horner's (2008) description of positive behavioral supports; when correctly implemented each of these interventions provide students with positive feedback on their appropriate behaviors. Alternatively, anger management was frequently used but it appeared that teams did have much success with this intervention—response rate averages were below 80% for all tiers. Gansle (2005) actually found that socially focused intervention packages (e.g., social skills training, etc.) had greater effects than self-focused interventions (e.g., anger management, etc.). It may be that rough play

interventions are more effective when they are socially focused, and teach and reward appropriate behaviors.

One interesting finding was that the individualized Tier III interventions that were the reported to be effective were not commonly implemented. Although teams reported using many intervention options to address more intensive problems, agreement of effectiveness of specific interventions used between teams was more mixed than the school/class-wide and small group levels. Overall, active supervision, social skills training, and rewarding appropriate behaviors were highly rated as effective individual interventions. The mean scores also suggest that bully prevention was rated as an effective individual intervention. Bully prevention programs have several aspects that may explain these results. Bullying teaches what bullying is, increases awareness of bullying, teaches skills to stop bullying, and to get adult help. Thus, potentially a student instigating rough play may learn the distinction between bullying and RTP, bully less, learn how to prevent RTP from escalating to bullying, and/or to get adult help. Wilson and colleagues (2003) similarly concluded that bullying prevention programs could effectively decrease disruptive behaviors, such as aggressive play behaviors. At the individual level active supervision, social skills training, rewarding appropriate behaviors, and bully prevention are reportedly effective treatment interventions for problematic rough play.

Training Needs for Interventions Addressing RTP

Although many teams found RTP to be problematic, few teams would like further

trainings on interventions to directly target RTP. Interventions frequently requested for training and commonly implemented included social skills training, anger management, and bully prevention. Other requested interventions that were not commonly implemented included self-monitoring and structured recess. Low training requests may be likely due to the fact that schools were already implementing many of these interventions and considered them to be highly effective in reducing behavior problems in general. Other reasons for low request for intervention may be that teams considered the additional interventions too intrusive, ineffective, intensive, or required resources not available to their schools.

It may be beneficial for future team trainings to target interventions with highly estimated response rates and with more training requests. Social skills training and bully prevention are interventions which meet both of these criteria. Considering many school teams reported already implementing these interventions, trainings specific to these interventions for addressing RTP might be the most practical use of time and receive more school participation.

Limitations

The results of this study should be considered with the following limitations. First, there are limitations to the generalization of the findings to other school-based problem solving teams due to the convenient sampling procedure used to recruit team participants. Responders to this survey may have participated due to specific past or present issues encountered with RTP at the school. Teams that responded may have also

differed from those who did not respond. For example, teams who responded may be more likely to view RTP as a problem that they have been or wanting to target. Further, there may be a potential bias by team perception that the survey's main query concerned intervention. Results were also based on responses from a small sample size and from trained SWPBS teams in schools within one state. The fact that teams were trained and designed to monitor and solve problems may have created a bias in survey responses. Thus, many responses may have been influenced by the training conducted and student populations in this state. Further, potential bias may have also been due to team perception that intervention was a main query of the survey.

Second, although teams were instructed to complete the survey as a school-based team at their next meeting, there is no actually data to support that surveys were actually completed as a team effort. Therefore, it cannot be ascertained that the entire team actually did participate in completed the survey.

Third, teams tended to mark quite a few treatments for all levels suggesting that the interventions may have been targeting multiple problems. Thus, interventions may have been too broad making it difficult to determine the degree that a team specifically targeted RTP in addition to other problem behaviors with an intervention. Further, no prior intervention study was found in the literature that directly targeted RTP. Interventions added to the survey were based on prior empirical research of interventions that significantly decreased aggressive and disruptive behaviors in recess settings, and thus, may have seemed vague to the participating teams. It is also unknown if and how the common interventions used across all levels were modified to increase intensity for

small group and individual. Further, there were some teams who marked all levels for a given intervention, which could suggest that some teams did not fully understand the difference between the three levels.

Fourth, although an attempt was made to solicit teams that used data to objectively identify problems and implement effective solutions, all data was based on self-report. Thus, it cannot be ascertained the degree that the actual level of intervention effectiveness was influenced by team's perceptions and biases on data accuracy.

And finally, RTP that leads to more intensive problems such as fighting may require a combination of interventions to get optimal effects. Teams were asked to rate the effectiveness of each intervention but because teams endorsed use of multiple treatments, the effect of one treatment may have been when combined with another or group of interventions. Future studies should confirm actual RTP problems and intervention effects by reviewing data collected by schools or with direct observations.

Practical Implications and Directions for Future Research

In consideration of the study limitations, these results provide preliminary findings that are relevant for preventing and addressing RTP problems in school settings. First, a few interventions were effective at all three levels that schools are already willing to implement. In sum, active supervision, rewarding students, and social skills training were interventions that are both used and rated as effective for school/class-wide and small group level levels. Although generalization is an important part of intervention programs that was not investigated in this study, these interventions may provide direct

support for at-risk students in the recess environment by providing high vigilance, prompts, and reward for shaping appropriate behaviors.

Second, skill acquisition seems to be key priority. Intervention programs that teach and promote key social skills, such as cooperative play and game rule following, may effectively diminish RTP. Interestingly, anger management was frequently used but it appeared that teams did have much success with this intervention, whereas as CBT was effective but not used by many teams. As previously discussed it may be that socially focused interventions which teach and reward appropriate behaviors might be more successful than self-focused programs that lack behavioral reinforcement systems (see Gansle, 2005). An experimental design in which these two treatment approaches are compared in treating similar problems will help understand whether these are important components for addressing RTP and other disruptive behaviors. Further research may be helpful to better understand the lesson content which would help to shape appropriate behavior and decrease RTP on the school playground.

In summary, the extent that RTP should be addressed when implementing behavioral programs in school settings has not been well researched (Pellegrini & Smith, 1993; Reed & Brown, 2001). This study helps provide a start to understanding the extent that RTP should be addressed in the school recess setting. By these findings it might be estimated that school-based problem solving teams report that RTP can be problematic in school settings, and may be prevented at the school-wide level and intervened with small groups and individuals—thus addressing the question of how to respond to problematic RTP with rules and interventions that maintain a safe recess environment. Given that

teams are using many types of data sources (*M* = 4) to examine RTP problems, future studies to examine direct intervention effect on RTP based on school data outcomes would be an important next step. Moreover, differences in RTP in certain populations such as gender or students with disabilities should be further investigated in future studies.

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APPENDICES

Appendix A

Survey on the Occurrence of Rough-and-Tumble Play in School Settings

Survey on the Occurrence of Rough-and-Tumble Play in School Settings

Section I. General Information

1. How many members are on your team that will be answering this survey? ____
   What are the team member roles of the persons who are collaborating to answer these questions?

   ☐ Special Education teacher ☐ General Education teacher
   ☐ Special Education administrator ☐ General Education administrator
   ☐ Principal ☐ Vice /assistant principal
   ☐ Speech therapist ☐ Reading specialist
   ☐ School psychologist ☐ Counselor
   ☐ Parent ☐ Other: _____

2. What type of data on student behavior does your team(s) review at your school?
   ☐ Office Discipline Referral records ☐ Teacher referrals
   ☐ Rewards for appropriate behavior ☐ Point system (e.g., Principle's 200 Club)
   ☐ Recess conflicts ☐ Classroom data (e.g., off-task, disruptive)
   ☐ Absentness/Tardiness ☐ Suspension/In-School Suspension
   ☐ Expulsions ☐ Parent complaints
   ☐ Other: _____

3. What age groups do you use positive behavioral support intervention programs with?
   ☐ Preschool ☐ Kindergarten – 2nd grade
   ☐ 3rd grade – 4th grade ☐ 5th grade – 6th grade
   ☐ Middle School ☐ High School
   ☐ Other: _____

4. Given that schools are at different stages, please report what tiers that positive behavioral support intervention program are currently being implemented in at least one of your school(s) for each school level.
   ☐ School-wide (Tier 1)
   ☐ Class-wide (Tier 1)
   ☐ Tier 2
   ☐ Tier 3
   Additional Comments:_____

Section II. Rough-and-Tumble Play at your schools

Read the following definition of rough-and-tumble play: Good natured chase and fighting behaviors that occur in student's play that occurs most frequently between elementary-age students. Rough-and-tumble play may include physical contact and behaviors that looks to be similar to aggression; however, the students involved express they do not intend to hurt one another. Behaviors that may be observed as rough-and-tumble play includes chasing, hitting, play fighting, teasing, poking, pouncing, sneaking up, carrying another student, piling on each other, holding/restraining, shoving/pushing, boxing, grappling, Kung-Fu, colliding, wrestling, flailing, the initiator showing signs of regret when the play partner is injured, reciprocal/alternating roles, and showing positive emotional expression.

1. Specific only to school settings, rate the percent of time that…

   Rough-and-tumble play is **beneficial** for students:
   ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% of the time

   Rough-and-tumble play is **problematic** for students:
   ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% of the time

2. Please check the following which you perceive are outcomes for students who participate in rough play *in your school setting*? Check all that apply.

Student has less play partners	☐ yes ☐ no	Aides students' physical development	☐ yes ☐ no
Student learns to play appropriately	☐ yes ☐ no	Student develops better social skills	☐ yes ☐ no
Student learns to cooperate with others	☐ yes ☐ no	Student bullies	☐ yes ☐ no
Student is sent to time out	☐ yes ☐ no	Students participate in organized game	☐ yes ☐ no
Interferes with organized games	☐ yes ☐ no	Results in a student leaving a play group	☐ yes ☐ no
Students releases energy	☐ yes ☐ no	Student develops close friendships	☐ yes ☐ no
Student is more liked by peers/popular	☐ yes ☐ no	Ends in a physical fight	☐ yes ☐ no
Student becomes aggressive	☐ yes ☐ no	Spend more time with friends	☐ yes ☐ no
Students have a fun time	☐ yes ☐ no	Students appropriately participate in play	☐ yes ☐ no
Student seeks adult help	☐ yes ☐ no	Students show affection and caring	☐ yes ☐ no
Considered as bullying by student or peers	☐ yes ☐ no	Student is sent to the office	☐ yes ☐ no
Student is injured	☐ yes ☐ no	Other	☐ yes ☐ no

If yes to other, please explain:_____

Section III. Prevention and Interventions for Rough Play

Listed below are some interventions that are implemented for students for improving social behaviors at recess.

First, for each intervention, please check **ALL tier levels** that each intervention was implemented at any of your schools with: School-wide or class-wide student populations, Small groups consisting of identified at-risk students, and At-risk Individuals.

Second, for each implemented level, please check the percentage of students who **responded to an implemented intervention** (i.e., there was a noticeable increase in the student's positive play interactions and reduced problematic rough play at recess after the intervention was implemented.)

Third, for each listed intervention, please check whether you would like additional training for an intervention.

Check if intervention was implemented at a level(s)			**Rate percentage of students who responded to intervention**	**Training wanted?**
Rewarding students for rule compliance and reduction of problem behavior that may include ticket or point systems.	School/classwide	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
	Small group	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	
	Individual	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	
Behavioral Tracker or Contracting writing a contract with good behavior goals which is reinforced with rewards.	School/classwide	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
	Small group	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	
	Individual	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	
Self- management strategies For example, self-monitoring, recording, self- instruction.	School/classwide	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
	Small group	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	
	Individual	☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	

Check if intervention was implemented at a level(s)			Rate percentage of students who responded to intervention	Training wanted?
Shortening Recess time	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
Structured Recess: offering games with rules, activities, and limiting play areas	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
Cognitive Behavioral treatment: Problem solving skills, relaxation, and/or positive thinking.	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
Social skills training: For example, modeling, practicing of play and communication skills, assertive or conflict resolution.	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
Anger Control management: Teaching anger triggers social and internal cues, reframing, and coping mechanisms	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No

Check if intervention was implemented at a level(s)			Rate percentage of students who responded to intervention	Training wanted?
Active Supervision with deliberate movement to monitor, scan and give positive student contacts.	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
Bully Prevention and intervention. For example, clear rules, training on respecting differences, bystander support, getting help	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No
Other?	School/classwide Small group Individual	☐ Yes ☐ Yes ☐ Yes	☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100% ☐0% ☐10% ☐20% ☐30% ☐40% ☐50% ☐60% ☐70% ☐80% ☐90% ☐100%	☐ Yes, for: ☐RTP ☐Non-compliance ☐Anger ☐Other Behavior Concerns ☐ No

Appendix B

Recruiting E-mail Letter

Dear Team member,

Why am I getting this email?

Hello! You were sent this e-mail because you are a team that is part of the Utah Multi-Tier System of Supports (ABC-UBI) Program.

My name is Jason Basinger and I am a school psychology graduate student at Utah State University. I am working with Dr. Donna Gilbertson, school psychology professor at USU, and the Utah Personnel Development Center and we would like to **invite you to participate in a research study** designed to explore the occurrence of rough-and-tumble play in school settings. I am currently an intern in Davis School District and I am interested in learning about when and how schools are addressing rough-and-tumble play in the school settings that may have direct intervention implications to schools in the future.

What would I have to do?

Your team participation would involve completing a survey with your team about the frequency and outcomes of rough-and-tumble play and any programs or interventions that have been used to reduce problematic rough-and-tumble behaviors in school settings. This survey is attached and a copy will also be sent to you in about a week in the mail. You can also assess the survey at this site:

We ask that you PLEASE COMPLETE THIS SURVEY AT YOUR NEXT TEAM MEETING. Together, the team completes one survey that may take **between 15 and 20 minutes**. A code is used in place of a school name and all survey responses will be completely confidential.

How do you send the completed survey to us?

If you use the website versions, you will be able to submit it immediately to us.

If you completed the paper copy, please select the best option for you and your team:

1) Place the completed survey in an attached posted mailing envelope that will be included with the survey sent to you in the mail,
2) Scan the survey and email to Jason.Basinger@Aggiemail.USU.edu or,
3) Bring the completed copy to the Spring ABC-UBI Institute.

What is in it for our school-based team?

Your team's school name will entered into a **drawing for one of five $100** Amazon.com gift cards to be given away by the researchers. In addition, you may request a summary of the study results by email.

If you have any questions about the research, please do not hesitate to contact me, Jason Basinger at Jason.Basinger@Aggiemail.USU.edu. You may also contact my faculty advisor, Donna Gilbertson, Ph.D. at (435) 797-2034 or donna.gilbertson@usu.edu.

Thank you for your support and sincerely,

Donna Gilbertson, Ph.D.
Principal Investigator
435-797-2034
donna.gilbertson@usu.edu

Jason C. Basinger, M.S.
Graduate Student Researcher
801-350-1215
jason.basinger@aggiemail.usu.edu

Heidi Mathie-Mucha
Devin Healy
UPDC Specialists

Appendix C

Letter of Information

UtahState University
Department of Psychology
2810 Old Main Hill
Logan UT 84322-2810
Telephone: (435) 797-2034

Page 1 of 2
USU IRB Certificate of Exemption: March 17, 2011
Exemption Expires: 03/16/2014
Protocol #2886
IRB Password Protected per IRB Administrator

LETTER OF INFORMATION

Perspective and Practices to Address Rough-and-Tumble Play in the School Setting: A Survey of School-wide Positive Behavior Support teams in Utah

Dear Team members,

Introduction/Purpose: Jason Basinger, a school psychology graduate student working under the direction of Dr. Donna Gilbertson in the Psychology Department at Utah State University is conducting a research study to find out more about rough-and-tumble play (RTP) in school settings. This research seeks to gain information regarding perceptions of RTP in general and specific to school settings, schools' policies regarding RTP, how schools distinguish between RTP and aggression, observed outcomes of RTP in school settings, and whether or not interventions are needed to address RTP in school settings. You have been asked to take part because you are a member of a school based team who is planning on or implementing a Schoolwide Positive Behavior Support Program in a school setting. There will be approximately 20 teams consisting of 5 to 10 participants who will be asked to participate in this research.

Procedures: If you agree to be in this research study, I am inviting your participation by completing a survey with your team that is expected to take 20 minutes of your time. The survey consists of three sections: (1) demographic information; (2) questions about RTP, specifically perceptions of RTP in general and specific to school settings, schools' policies regarding RTP, how schools distinguish between RTP and aggression, and a checklist of observed outcomes of RTP in school settings; and (3) a checklist of intervention programs on which teams will report if an applied intervention has been implemented to individuals, small group, and/or school-wide level, the percentage of students who positively responded to the intervention, whether additional training for an intervention to rough-and-tumble play (RTP) is desired or not. Team responses will be collected into a database and scored by the graduate student researcher.

Risks: There is minimal risk in participating in this research. No individual names or school names will be requested or recorded to ensure anonymity and confidentiality.

Benefits: Participation in this study may allow for the analysis of information regarding prevalence of problems related to RTP and current PBS practices that may contribute to understanding which behaviors are likely to lead to aggression problems in school settings. While there will likely be no direct benefits to you from participating, information gained from this study may lead to the development of training to help school based teams, including your team, to develop interventions aimed to create safer playgrounds and classrooms.

Explanation & Offer to Answer Questions: If you have any questions you may contact Jason Basinger at (801) 350-1215 or by email at jason.basinger@aggiemail.usu.edu, or Donna Gilbertson at (435) 797-2034 or by email at donna.gilbertson@usu.edu

Voluntary nature of participation and right to withdraw without consequence: Participation in research is entirely voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits.

Confidentiality: Research records will be kept confidential according to federal and state regulations. Because questionnaires will be filled out by teams, individual names will not be collected. Your name will not appear on this questionnaire in order to protect your privacy. The data and information obtained from the surveys will also be stored in a locked file cabinet and only the researchers, Jason Basinger and Dr.

Department of Psychology
2810 Old Main Hill
Logan UT 84322-2810
Telephone: (435) 797-2034

LETTER OF INFORMATION

Perspective and Practices to Address Rough-and-Tumble Play in the School Setting: A Survey of School-wide Positive Behavior Support teams in Utah

Gilbertson, will have access to this information. No other individuals will have access to the data. Obtained study results may be used in reports, presentations, and/or publications; however, participants' names will not be known.

IRB Approval Statement: The Institutional Review Board for the protection of human participants at Utah State University has approved this research study. If you have any questions or concerns about your rights or a research-related injury and would like to contact someone other than the research team, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu to obtain information or to offer input.

Investigator Statement: "I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered."
Your time is appreciated and we are grateful for your consideration of participating in this research study.
Sincerely,

Donna Gilbertson, Ph.D. Principal Investigator 435-797-2034 donna.gilbertson@usu.edu	Date	Jason C. Basinger, M.S. Graduate Student Researcher 801-350-1215 jason.basinger@aggiemail.usu.edu	Date