CHILDREN'S BELIEFS ABOUT FIREARMS AND THEIR EXPOSURE TO VIOLENT MEDIA

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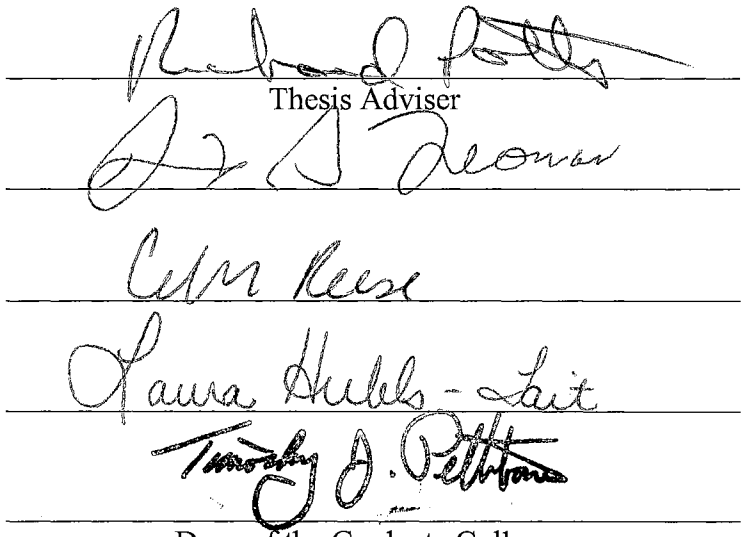

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CHAPTER I

INTRODUCTION

In the United States during the 1990's, firearms were the second most common cause of injury-related death among children between the ages of 10 and 19 years old (National Center for Injury Prevention, 1996). In addition, hospital emergency rooms treated an estimated 1,500 children aged 14 and under for unintentional gun-related injuries last year (National Safe Kids Organization, 2001). In most cases, the firearms involved in these injuries or deaths came from the child's own home or the home of a friend or relative (Grossman, Reay, & Baker, 1999). Research has shown that although nearly two-thirds of gun-owning parents with school age children believe they keep their firearms safely away from their children, 75 to 80 percent of first- and second-graders know of its location (National Safe Kids Organization, 2001). Firearm-related accidents are of great concern to physicians and parents, and gun safety issues continue to be important topics for researchers.

Additionally, a growing prevalence of gun violence in today's youth is cause for concern by public, educators, and behavioral scientists. Gun-related violence is on the upsurge, with a 79% increase in the number of juveniles committing murder with firearms between 1980 and 1990, despite the fact that overall youth violent crime has been steadily decreasing (Office of Juvenile Justice, 1998). Media anecdotes have depicted the images of everyday, seemingly "normal" young people shooting and killing other young people. Children as young as 6 years old have carried guns to class and used

them on fellow classmates. Such situations dictate the necessity for psychological research into children's beliefs about firearms as a first step in determining why some choose to carry guns, with implications as to how to prevent unintentional injuries and youth gun violence.

There is also currently high public interest in the effects of media violence on children's behavior, including gun violence. The Federal Trade Commission recently reported findings from an investigation of the entertainment industries marketing violence to young children. They found that companies in the entertainment industry routinely target children under 17 as the audience for movies, music and games that their own rating or labeling systems say are inappropriate for children due to violent content. Following this report, the Federal Trade Commission and the Department of Justice called for immediate regulatory actions, including establishing codes that prohibit target-marketing to children and imposing sanctions for violations to those codes (FTC, 2000).

Theoretical Influence

The primary theoretical influence for this study was Bandura's (1986) Social Cognitive Theory, formerly Social Learning Theory. Bandura's theory focused the concept of human learning in terms of social experiences, particularly social interactions. Bandura stressed that children imitate the behaviors they observe in others. An important conceptualization of this theory is that individuals do not simply learn through direct experiences, but also through observations of other's behavior. Bandura also stressed that human learning occurs from the individual's interpretations of the consequences they experience from their behavior as well as observed consequences to others. This study has strong theoretical basis in Bandura's theory. Specifically, we believe that children

learn or adopt beliefs about guns, in part, from the images they are exposed to in television and videogames. The images of individuals using guns on television may serve to set certain norms for owning and using guns. Videogames may have an even greater impact on children's beliefs as they not only observe actions on the screen, they participate in the action. In addition, videogames offer positive consequences for "shooting the bad guys" by winning the game.

In summary, the prevalence of unintentional death and injury in children from guns and the increase in gun violence among youth is of interest to researchers and warrants further study. The purpose of this project was to investigate children's beliefs about guns and gun safety and how such cognitions are related to children's exposure to violent media such as television and videogames. In addition, other psychological variables such as fear of victimization, risk taking, and sensation seeking were examined as possible influences on children's beliefs, in order to gain a more complete understanding of gun beliefs.

CHAPTER II

REVIEW OF THE LITERATURE

Firearm Research

Firearm safety and gun control are currently very prominent political issues and the amount of firearm research has increased dramatically in the last decade as a result. The majority of this research has focused on profiling individuals who own guns and identifying family firearm-safety practices, and only a few have examined individual beliefs about firearms. However, the majority of these studies have focused exclusively on adults and adolescents, as they are easy to survey regarding their beliefs about and interests in guns. Far less research has looked at younger children, and that research has focused predominantly on safety behavior issues. Children's beliefs about firearms have seen very limited research. However, research into children's beliefs is necessary in order to understand the origins of adult and adolescent beliefs as well as predict children's firearm safety behaviors.

The adult and adolescent research is an important basis for the development of research to study children's beliefs. Much of the adult research has focused on the reasons why individuals own and carry weapons. Researchers have shown that gun control beliefs are variable across gender (Bankston, Thompson, Jenkins, & Forsyth, 1990; Young, 1986), cultures (Brennan, Lizotte, & McDowell, 1993; Bryant & Shoemaker, 1988; Cooke & Puddifoot, 2000), and gun association affiliations (Weil & Hemenway, 1993). Most adults who possess firearms report that they own them for

protection or recreation reasons (Kleck & Gertz, 1998; Morrison, Hofstetter, & Hovell, 1995). Research has shown that several personal variables correlate positively with weapon carrying and firearm beliefs, including early socialization with guns, need for power (Diener & Kerber, 1979), and fear of victimization (Heath, Weeks, & Murphy, 1997).

Researchers have also examined weapon carrying and firearm beliefs of adolescents and many of their results mirror adult research. Several variables correlate with teens' beliefs about firearms and violence, including gender, race, and socioeconomic status (Livingston & Lee, 1992; McNabb, Farley, Powell, & Rolka, 1996). Other findings suggest that teenagers who carry guns do so because of fear of victimization (May, 1999) and believe that guns make them safer (Kingery, Pruitt, & Heuberger, 1996; Price, Desmond, & Smith, 1991; Sheley & Wright, 1993). However, researchers have also shown that beliefs about weapon carrying correlate with adolescent aggressiveness and pro-violence beliefs in addition to fear of victimization or need for protection (Cunningham, Henggeler, Limber, Melton, & Nation, 2000; Webster, Gainer, & Champion, 1993). This research suggests that there are individual differences in how adolescents view firearms that are similar to adult beliefs and these beliefs may have origins in childhood experiences with guns. However, very little research has specifically examined beliefs about guns in younger children.

In the only published study of young children's firearm beliefs, Shapiro, Dorman, Welker, and Clough (1997, 1998) devised the Attitudes toward Guns and Violence Questionnaire (AGVQ) to survey 3rd, 5th, and 6th grade children. This questionnaire included items from four major factors related to gun use and violence, including

excitement, aggressive response to shame, comfort with aggression, and power/safety. For example, one item from the excitement subscale states, "It would be exciting to hold a loaded gun in my hand." Shapiro et al. found significant age and gender differences in beliefs, with 6th graders scoring higher than 3rd or 5th graders and boys scoring higher than girls, indicating more positive beliefs (e.g., makes me safer) about firearms. These results were consistent across race and socioeconomic status. In addition, results showed that children who had guns in their homes, regardless of whether the weapon was a handgun or a hunting rifle, scored higher on the AGVQ measure than children who had no home exposure to guns. Shapiro et al. summarized that the AGVQ is a reliable measure of children's attitudes about guns and violence, and that it reveals individual differences in young children's beliefs. However, this study only examined attitudes about firearms and violence, without addressing children's beliefs about gun safety. Presently, no study has measured children's beliefs about gun safety specifically. A few studies have examined children's overt safety behaviors with firearms and their findings have important implications for this study.

Hardy, Armstrong, Martin and Strawn (1996) tested preschool aged children and found individual differences in their play behavior with firearms. They showed that children who had access to guns at home played with real guns more often in a play setting and differentiated real from toy guns more accurately than children who were not exposed to guns at home. Additionally, Hardy et al. found that exposure to a firearm safety program did not significantly modify children's behavior with guns. Children who participated in the safety program were just as likely to handle and play with a gun in a play setting as those children who did not participate in the program. Additionally,

Jackman, Farah, Kellermann, and Simon (2001) experimentally manipulated various situations in which a disabled gun was hidden and observed the behavior of boys aged 8-12 years old. They found that most of the boys in the sample found and handled the weapon, and many of them pulled the trigger without checking if it was loaded. Jackman et al. also found that children who had previous received gun safety training or had firearms in their households were more likely to handle the gun than those who did not have home exposure to guns, although the difference was not statistically significant. These studies reveal individual differences in children's safety behavior with guns that reflect aspects of socialization and experience, and may reflect differences in their beliefs about guns. However, neither Hardy et al. nor Jackman et al. directly examined children's beliefs about gun safety and currently no studies have measured children's beliefs. The present study attempted to fill this gap in the knowledge by examining children's evaluations of gun safety transgressions; such evaluations should reveal underlying beliefs about guns and gun safety.

Using a rule paradigm similar to methodology used in studies of children's beliefs about moral, social-conventional, and prudential rules, this study examined children's evaluations of gun safety transgressions. The rule paradigm presented children with scenarios depicting various rule violations and children made various evaluations about the transgressions. Previous research using this rule paradigm has found it to be a useful tool for examining children's conceptualizations of moral and prudential transgressions. The findings from this past research may be an important basis for understanding children's evaluations of gun transgressions because there may be both moral and prudential components to the gun transgressions.

Researchers interested in children's conceptualizations of different rule domains have described three primary rule domains, which include moral, social-conventional, and prudential (Nucci & Turiel, 1978; Smetana, 1993; Turiel, 1979). The moral domain focuses on the concepts of justice, welfare, and fairness to others, such as being honest or not harming others. The social-conventional domain, on the other hand, is structured by concepts of social order, social etiquette, and social roles. For example, a social-conventional rule that a school age child should relate to is that one must raise one's hand in class before asking a question. In addition to the moral and social-conventional domains, prudential rules are those defined by concepts of safety and health to the self. Examples of prudential rules are that one should look both ways before crossing the street or wear a helmet when riding a bike. Regardless of the domain, rules are mandated in all social interactions and early socialization teaches children that rule following is important for adaptive interaction with family, peers, and authority figures.

Studies using the rule paradigm methodology have shown that children conceptualize rules from these various domains differently. Researchers have examined young children's conceptions of rules using "criterion judgments." For example, Smetana (1981) asked preschoolers to evaluate rule transgressions, with judgments along several dimensions. These dimensions included rule contingency ("would the transgression be okay in the absence of a rule"); rule relativism ("would the transgression be okay in another situation"); seriousness of transgression ("how bad is the transgression"), and amount of punishment deserved ("none, a little, or a lot"). Smetana found that children as young as 2-1/2 years could distinguish between moral rules and social-conventional rules using those criteria. They evaluated moral transgressions as more serious, deserved more

punishment, and judged them more generalizable across various situations than social-conventional rules.

Several studies have examined children's evaluations of prudential rules in comparison to moral and/or social conventional rules using the criterion judgment methodology, however results from these studies are mixed. Tisak and Turiel (1984) and Stern and Peterson (1999) showed that children regard rule transgressions as more serious and deserving of more punishment when the behavior violates a moral rule (throwing a rock at someone) compared to prudential (i.e., running in the rain) or social-conventional (brushing one's teeth). However, Catron and Masters (1993) found no significant differences in children's ratings of seriousness or amount of punishment deserved between moral and prudential transgressions, although they did find that social-conventional rules transgressions were rated the least serious and deserving of the least amount of punishment of all the rule transgressions.

In summary, past research using the rule paradigm methodology has shown that children differentiate between rule transgressions from the different rule domains. This criterion judgment methodology was used in the present study to evaluate children's beliefs about gun transgressions as we have systematically varied the transgressions to reflect moral and prudential rule violations. It is likely that children's evaluation of the seriousness of a gun transgression depends on why the actor broke the rule. For example, it may be that children evaluate the transgressions more seriously when the actor breaks the rule out of hostility rather than curiosity or fear. The different contexts of the rule transgressions should reveal important situational and contextual influences on the way children regard gun rules, reflecting their beliefs about gun safety.

Children's Firearm Beliefs and Exposure to Violent Media

A potentially important influence on children's beliefs about firearms is their exposure to violent media, such as television, movies, and videogames. An extensive body of research has examined the effects of media violence on children's levels of aggression, and found overwhelming evidence that children who frequently watch violent media are significantly more aggressive than children exposed to less violence. However, no previous research has addressed the specific effects of media violence on children's firearm beliefs. One new contribution of the present study is that we have examined the television violence--gun belief relationship.

A large body of research has shown that media violence affects behavior in a number of ways. A well-documented effect is that children who frequently watch televised violence increase aggression (Bandura, Ross, & Ross, 1963; Lovaas, 1961; Murray, 1980) via the behavioral mechanism of observational learning. A basic tenet of social learning theory, humans learn many behaviors from observing the actions of others (Bandura, 1977), especially when those behaviors are reinforced. Most research studies examining observational learning of aggression focus on physical aggression such as hitting, shoving, etc., but not weapon use. Observational learning may influence children's beliefs about guns, with children modeling and/or imitating the gun beliefs they observe on television. The images of individuals using guns on television may serve to set certain norms for owning and using firearms. Children see that heroes reliably overpower the "bad guys" with guns and may come to believe that guns are necessary, or at least convenient, for achieving power or status and receiving rewards.

It can also be speculated that children's firearm beliefs are shaped by media (i.e., television and videogames), in that their cognitive representations are molded by what they frequently see on television (Gerbner, Gross, Morgan & Signorielli, 1994; Huesmann, 1988; Potts & Masters, 1991). Gerbner and colleagues, who have studied this "cultivation effect" extensively, have found that adults and children who are frequent television viewers believe the real world is more dangerous than it is in reality. Gerbner calls this a "Mean World Syndrome" (Gerbner, Gross, Morgan, & Signorielli, 1980, 1986) and can lead to an increase in fear of victimization. This cultivation effect may also influence the formation of gun beliefs by children. It is possible that children who watch a lot of violent television programs would have more positive beliefs about guns and violence, seeing them as important tools for protection against the "mean world."

The majority of media research has focused on the effects of violent television and movies on behavior and beliefs. Less research has focused on the effects of violent videogames on children's behavior and beliefs, although public and government concern has escalated over the effects that videogames are having on children. Grossman (2000) argued that highly popular "shooter simulation" videogames give children gun training that rivals military training and may also influence children's attitudes about firearms and violence. A few empirical studies have supported the idea that videogames influence behaviors and beliefs. Behavioral research has shown short-term effects of violent content in videogames, in that young children do become more physically aggressive after playing violent videogames (as cited in Griffiths, 1999). Research examining children's cognitions has also shown that violent videogames can influence children's beliefs. For instance, Kirsh (1998) found that after playing violent videogames, children

interpreted the ambiguous behavior of a story character as more negative or violent than did children who played a nonviolent videogames. Despite the findings of past research, no empirical studies have examined children's beliefs about guns in relation to violent media. This study attempts to fill this gap in the knowledge by examining the relationship between the amounts of violent media that children experience and their beliefs about guns and gun safety.

Although research has not directly examined firearm beliefs in relation to the amount of violent media exposure children have, it seems appropriate to focus research on this specific topic, with public and government interest currently high. This study specifically examined the relationship between children's beliefs about guns and their exposure to violent television and videogames.

Child Characteristics and Gun Beliefs

Although the focus of the present research project was to investigate the relationship between exposure to violent media and children's beliefs about guns, this study also examined other variables that may be influential in the development of children's beliefs about guns. These individual variables include children's fear of victimization, their sensation-seeking disposition, and their risk taking behavior.

Fear of victimization. Fear of victimization is a person's fear of being attacked or injured by another person. Although young children's fear of victimization has not been studied in relation to firearms, research with adolescents has shown that self-protection is a frequently cited reason for owning and carrying guns (Kingery, Pruitt, & Heuberger, 1996; Martin, Sadowski, Cotton, & McCarraher, 1996; Sheley & Wright, 1995). May (1999) used a 9-item scale measuring fear of victimization and found a significant

relationship between fear of victimization and gun possession, indicating that teens who were afraid of being victimized were more likely to have carried a gun to school than those with low fear. It is possible that younger children who are afraid of being victimized will also have more positive beliefs about firearms than children who do not fear victimization.

The influence of fear of victimization on gun beliefs may not be a direct relationship. May (1999) has shown that greater fear of victimization influences children's beliefs about guns. In addition, exposure to television violence has been shown to lead to greater fear of victimization via cultivation belief in a "mean world" (Gerbner, Gross, Morgan, & Signorielli, 1980). However, a relationship between gun beliefs and exposure to media violence has not been reported. Exposure to violence, through television or videogames exposure may be just as effective as exposure to real violence in contributing to children's fear of being victimized. Therefore, it is conceivable that children's beliefs about guns may be influenced by the fear of being victimized that is cultivated by vicarious exposure to violence through television and videogames.

Sensation seeking. Children's personality disposition toward risky behavior, i.e., a sensation-seeking trait, may also influence their beliefs about firearms. Sensation seeking has been defined as "the need for varied, novel, and complex sensations and experiences, and the willingness to take physical and social risks for the sake of such experiences" (Zuckerman, 1979, p.10). Sensation seeking is a relatively stable personality trait, and is correlated with preferences for a wide variety of stimulation and activity. Zuckerman and colleagues have done extensive research on sensation seeking in adults and have shown that sensation seeking correlates positively with high risk taking behavior (Horvath &

Zuckerman, 1993; Zuckerman, 1994). High sensation seekers tend to take greater risks, including physical, financial, and social risks. For example, they tend to engage in more dangerous driving and drive under the influence of alcohol more often than low sensation seekers. High sensation seekers take greater gambling risks and make riskier financial investments than low sensation seekers. In addition, research with adolescents has also shown that sensation seeking is correlated with reckless driving, unsafe sexual practices, illegal drug use, and minor criminal activity (Arnett, 1996). Researchers have shown that sensation seeking may be genetically determined, with individual differences emerging in childhood behavior patterns (Fulker, Eysenck, & Zuckerman, 1980; Tellegen, Bouchard, Wilcox, Segal, & Rich, 1988).

Zuckerman developed the first sensation seeking scale (SSS) in the late 1960's. His scale originally had a forced choice format. For example, one item stated "A) I like "wild" uninhibited parties; B) I prefer quiet parties with good conversation." Participants were given two choices and were asked to select the one that best described themselves. Zuckerman's scale had four subscales that addressed different factors of general sensation seeking. These subscales included thrill and adventure seeking (TAS), experience seeking (ES), Disinhibition (Dis), and boredom susceptibility (BS). All the subscales except the BS have shown good replicability across genders and cultures (Zuckerman, 1994).

Very little research has focused on sensation seeking in young children. One reason for this is that Zuckerman (1979) and Arnett (1994) designed the sensation seeking scales for adults, reflecting their focus on individual differences in the trait. The

language and format of these scales make them difficult to administer to children. However, a few researchers have attempted to study sensation seeking in children.

Kafry (1982) verbally simplified Zuckerman's SSS and found that, in children aged 5-10 years, sensation seeking was significantly correlated with preferences for risky physical activities and complex stimuli in pictures and puzzles. Russo et al. (1991) also developed a sensation seeking scale for use with school age children by slightly modifying the language and content material of each item in Form V of Zuckerman's SSS so that children could understand them. They determined that sensation seeking could be measured in children and that the items showed good test-retest reliability. Russo, Stokes, Lahey, and Christ (1993) revised their sensation seeking measure for children. This revised measure showed good validity and moderate test-retest reliability when administered to participants aged 9-25. Results from this revised scale showed differences in age and gender that were similar to the results found in previous studies with children. Potts, Martinez, and Dedmon (1995) developed a picture version of the sensation seeking scale, which primarily reflected Zuckerman's Thrill and Adventure Seeking subscale. They found that sensation seeking was positively correlated with other measures of risk taking as well as injury history in children as young as 5 years old.

It is possible that beliefs about firearms are influenced by the need for novel and exciting experiences. Thus, high sensation seeking children should be more favorable in their beliefs about guns, while low sensation seekers should be more negative. Sensation seeking was studied here as a subject variable that may be related to firearm beliefs.

Risk taking. In addition to sensation seeking, risk taking was also measured, using the Injury Behavior Checklist (Potts, Martinez, & Dedman, 1995; Speltz, Gonzales,

Sulzbacher, & Quan, 1990). Risk taking can be defined as engaging in goal directed behaviors that also involve the potential for negative outcomes (Zuckerman, 1994). There are many forms of risk taking including social, financial, and physical risk. The present study was primarily interested in physical risk taking, as many gun injuries are a result from risky behavior with a gun.

Empirical study has revealed distinctive patterns of risk taking in children. For example, research has shown that boys take more physical risks than girls (Byrnes, Miller, & Schafer, 1999; Ginsburg & Miller, 1982; Rosen & Peterson, 1990) as well as make riskier decisions in other, non-physical, situations (Walsea, 1975). It has been further shown that there are age differences in risk taking as well. Older children engage in riskier behavior than young children (Ginsburg & Miller, 1982) and this continues to increase through adolescence before declining in adulthood (Arnett, 1994; Zuckerman, 1994).

Studies of physical risk taking in children have shown a relationship with accidental injuries. Manheimer and Mellinger (1967) showed that children who were labeled "daring" by their mothers were injured more often than other children. Potts et al., (1995) used a self-report measure of risk taking to measure children's willingness to take a physical risk. Results showed that children who reported a willingness to take greater physical risks had higher rates of injuries, as reported by their parents.

In addition to overt behavior patterns, other aspects of childhood risk taking have been examined. Specifically, researchers have studied children's cognitive appraisals of risky situations. Both the appraisal of risk and the actual behavior of risk taking appear to be interrelated as they apply to childhood injury. Studies on risk appraisal have shown

that how children appraise risky situations relates to the amount of risk they are willing to take. Morrongiello and Rennie (1998) found that children who appraised situations as less risky reported more risk taking behavior than those who appraised the situation as more risky. Similarly, DiLillo, Potts, and Himes (1998) showed that direct experience with risky situations was associated with lower appraisals for those situations.

In summary, past studies have shown that physical risk taking is correlated with childhood injuries; however, little or no research has been done to examine the relationship between physical risk taking and gun safety. The present study examined the possible relationship between children's risk taking and their beliefs about guns and gun safety. It was possible that children who were high risk takers would be willing to engage in more risky behavior with a gun than children who were low risk takers.

Summary

The purpose of the present research was to examine determinants of children's beliefs about guns. This study investigated the relationship between children's exposure to media violence and their beliefs about guns as well as the individual difference variables of sensation seeking, risk taking, and fear of victimization. By first understanding what children think about guns and how those beliefs are formed, we may be able to devise better educational efforts to prevent accidental injuries with guns.

CHAPTER III

STATEMENT OF PROBLEM

Several questions were addressed in this research. First, it is of interest to know if there was a relationship between children's beliefs about guns and the amount of violent media exposure they have experienced.

Research Question #1: Are children's beliefs about guns and gun safety related to their amount of violent media exposure?

- Hypothesis 1: Children who frequently watch violent television will score higher on the gun belief survey, reflecting more positive beliefs about guns, than children who watch little or no violent television will. In addition, children who frequently watch violent television will believe that gun safety transgressions are not as serious nor deserve as much punishment as children who watch little or no violent television.
- Hypothesis 2: Children who frequently play violent videogames will score higher on the gun belief survey than children who play few violent games. In addition, they will believe that gun safety transgressions are not as serious nor deserve as much punishment as children who play few violent games will.

Often in violent television and movies, guns are depicted positively. The characters use weapons to obtain what they want and are used to portray power and status. The "good guy" defeats the "bad guy" by using a gun. In addition, violent videogames often rely on game players firing at and blowing up enemies to earn points

and win the game. Thus, both violent television and violent videogames portray guns positively. Therefore, hypotheses 1 and 2 predicted that children who were frequently exposed to violent media would have more positive beliefs about guns compared to children who have had less exposure.

Research Question #2: Are individual characteristics such as sensation seeking, physical risk-taking, and fear of victimization related to children's beliefs about guns and gun safety?

- Hypothesis 3: High sensation seekers will have more positive beliefs about guns than low sensation seekers. They will also believe that gun safety transgressions are not as serious nor deserve as much punishment as low sensation seekers will.
- Hypothesis 4: Children who engage in more physically risky behavior will have more positive beliefs about guns, compared to children who take fewer physical risks. High risk takers will also believe that gun safety transgressions are not as serious nor deserve as much punishment as low risk takers will.
- Hypothesis 5: Children with high fear of victimization will have more positive beliefs about guns than will children who have low fear of victimization. They will also believe that gun safety transgressions are not as serious nor deserved as much punishment as children with low fear will.

Research Question #3: Does the motivational or social context of the rule transgressions influence children's evaluations of the gun rule transgressions?

- Hypothesis 6: Within a social context, it is predicted that there will be differences in evaluations between the different motivations. Specifically, in the scenarios where there were two children, the rule transgression that is motivated by hostility

will be evaluated as the more serious and deserving more punishment than the transgression motivated by curiosity. Additionally, in the scenarios where there was only the actor, the transgression that was motivated by curiosity will be evaluated as more serious and deserving of more punishment than the transgression motivated by fear. It is further predicted that there will be significant differences across social contexts, with the rule transgressions motivated by curiosity and hostility in the social context being evaluated as more serious than the transgressions motivated by curiosity and fear in the alone context.

- Hypothesis 7: When children are asked to rank order the four gun safety transgressions from most serious to least serious, they will rank the rule transgression motivated by hostility as the most serious, followed by the rule transgressions motivated by curiosity, and rank the transgression motivated by fear as the least serious.

CHAPTER IV

METHOD

Design Overview

The experimenter in this study obtained two measures of gun beliefs from school age children, as described below, in addition to subject variables, which included amount of violent media exposure, sensation seeking, and fear of victimization levels. Parents completed a survey on their own beliefs about gun safety and reported their children's experience with guns. In addition, parents completed the Injury Behavior Checklist (IBC) where they reported how often their child engages in risky behavior that could cause injury.

Participants

Seventy-eight children, including 45 females and 33 males, participated in this study. Children were primarily Caucasian and their mean age in months (with standard deviation in parentheses) was 115.2 (9.97). This particular age group was chosen for a number of reasons. Primarily, children in this age range have increasingly more independence from their parents and other adults, and therefore may be more at risk for situations in which they have opportunities to access guns as compared to younger, more closely supervised children. In addition, the measures used, both existing ones and those constructed for this study, required a minimum level of verbal comprehension and responsiveness. Younger participants may have had difficulty sustaining the attention level needed to reliably respond to all items.

The experimenter recruited children from local elementary schools, through their parents, via a letter of informed consent. Only children whose parents gave consent participated in the interviews. In addition, verbal assent was obtained from each child before the interview and all procedures followed a protocol approved by Oklahoma State University's Institutional Review Board. None of the children refused to participate or discontinued participation after interviews began.

Measures

Gun beliefs. This experiment used two methods to measure children's beliefs about guns, assessing both their general beliefs as well as their evaluations of gun safety transgressions. To measure general beliefs about guns, a survey based on the Attitudes Toward Guns and Violence Questionnaire (AGVQ) developed by Shapiro, et al (1997) was used. This survey consisted of eight items from the AGVQ that specifically focused on guns (See Appendix A). For example, one item stated, "I think it would be exciting to hold a real gun." Children responded to each item using a 5-point pictorial Likert scale, with the responses ranging from 1 = strongly disagree, 3 = not sure, and 5 = strongly agree (Figure 1). The items chosen for inclusion from the original Shapiro et al. survey assessed beliefs about guns that reflect motives of curiosity, protection, and power, but items focusing on violence were excluded, as we were not interested in measuring children's beliefs about violence.

To measure children's beliefs about gun safety transgressions, we used a rule conception methodology, taken from research on children's conception of moral, social, and prudential rules (Smetana, 1981; Tisak & Turiel, 1984). This measure involved

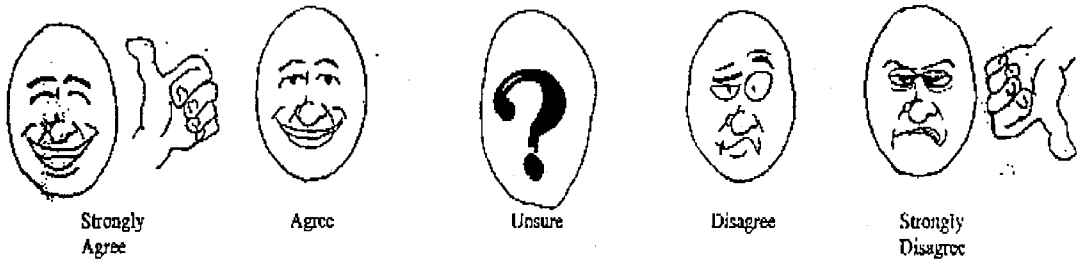


Figure 1. Pictorial response scale for gun beliefs survey.

presenting gun transgressions to the children and having them respond with several judgments about the seriousness of the rule transgression and amount of deserved punishment for the actor. In addition, children rank ordered the scenarios as to the overall seriousness of the transgressions.

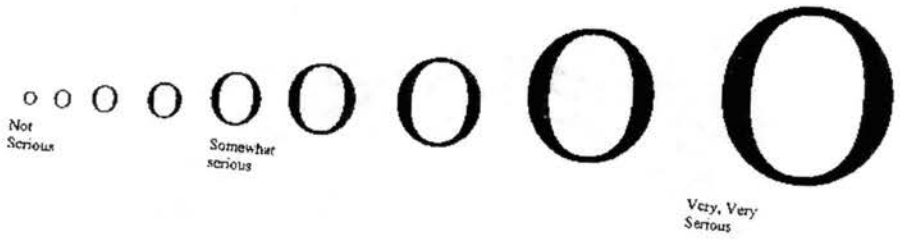
Interviewers presented children with two sets of four pictorial scenarios depicting actors engaged in safety rule transgressions (See Appendix B). The first set depicted gun safety transgressions and the second set depicted fire safety transgressions. The second set of scenarios, depicting fire safety transgressions, were included for comparison with the gun safety transgressions, as a way to evaluate construct validity of the rule measure. The transgressions within each set varied on social and motivational context, including: 1) one child at home playing alone and curious, 2) One child at home alone and afraid of a noise, 3) Two children playing at home and curious, 4) Two children at home and having an argument. Each picture included a narrative that described the content of the scene. For example, Figure 2 depicts an actor looking at a gun out of curiosity and the children were told, "This picture shows John is at home playing by himself. He is bored and looking for something to do. There is a rule in John's house that you do not play with dad's gun. However, today John breaks the rule. He opens the closet where dad keeps the gun and picks it up and points it at a chair." The fire transgressions were nearly identical to the gun transgressions, except that the actor handled a cigarette lighter instead of a gun. For example, one scenario depicted an actor getting a cigarette lighter out of a drawer to burn a peer's book out of hostility. All four pictures and their narratives within each set were presented to the children simultaneously, and the order in which the children saw each set of transgressions was randomly determined.

Figure 2. Example of gun scenario presented to children.

Several dependent variables were measured after the children had seen each picture. To measure the seriousness of the rule transgressions, children used a 9-point pictorial response scale, consisting of circles of increasing size and asked to evaluate how serious each violation was, ranging from 0 = okay to 9 = very, very bad. Children also indicated how much punishment they believe the actor should receive for violating each rule, using a 7-point pictorial response scale (See Figure 3). Finally, to measure the children's beliefs about overall importance, they rank ordered all eight transgressions from the most serious to the least serious.

Violent media exposure. Children's exposure to media violence was assessed using a survey that included items that asked children about their television viewing habits as well as their videogame experience (See Appendix C). The television-viewing component of the survey has been used previously (DiLillo, Potts, & Himes, 1998; Tangney, 1988) and listed various television programs which children indicated how often they viewed each program. Children's responses ranged from never watch (coded as 0) to sometimes watch (coded as 1) to always watch (coded as 2). Program titles were chosen to represent several television categories, including cartoon violence, sports-related violence, and fictional violence as well as nonviolent programs. Violent programs were then summed for a total television violence score, which ranged from 0-22.

Children also listed the types of videogames that they own and play. Children reported the titles of all videogames they have played in the past or currently play. Children reported on games that they owned and played at home as well as games they have played at friend's homes. The researcher coded the videogames that the children reported for violent themes, based on manufacturer's ratings and descriptions of video



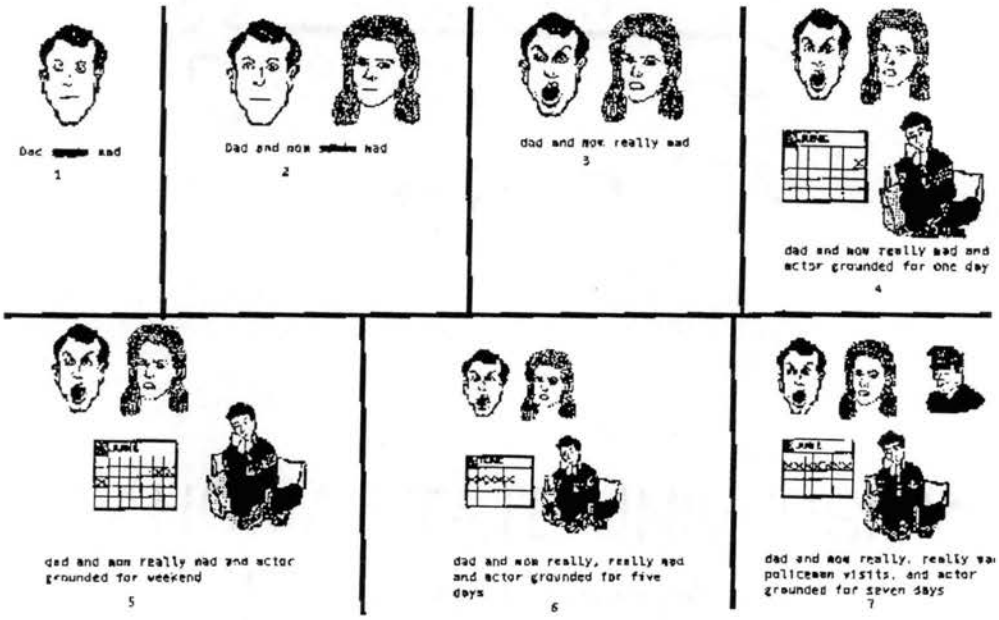


Figure 3. Pictorial response scales for evaluations of seriousness and deserved punishment for rule transgressions.

game actors and transgressions. The codes ranged from 0 = no violence, 1 = mild violence, 2 = extreme violence, and a total violence score was then obtained.

Fear of victimization. Children responded to several items taken from a fear of criminal victimization index that May (1999) developed (See Appendix D). These items included statements such as "I am afraid to come to school sometimes" and "I'm afraid of getting beaten up." Again, children responded using a 5-point Likert scale, ranging from 1 = strongly disagree, 3 = unsure, and 5 = strongly agree. Scores ranged from 7-35, with higher scores representing higher fear of victimization. May obtained a Cronbach's alpha of .90, indicating that the items were a reliable index of fear of victimization.

Sensation seeking. Sensation seeking was measured with a scale developed by Zuckerman (1979) and adapted for children by Potts, et al., (1995). The measure consisted of ten pairs of pictures depicting everyday scenarios that children could encounter. Each pair included a sensation seeking choice and a sensation avoiding choice and children chose the item alternative that they would prefer (See Appendix E for items). For example, Figure 4 shows one pair of items involving watching a scary movie versus watching a funny movie. The researcher scored each response as to whether the children chose the sensation seeking item (coded as a 1) or the sensation-avoiding item (coded as a 0). The total score for this measure ranged from 0 to 10, with the higher score representing higher sensation seeking. This measure has been shown to be a valid indicator of sensation seeking and risky behavior (Potts, et al., 1995).

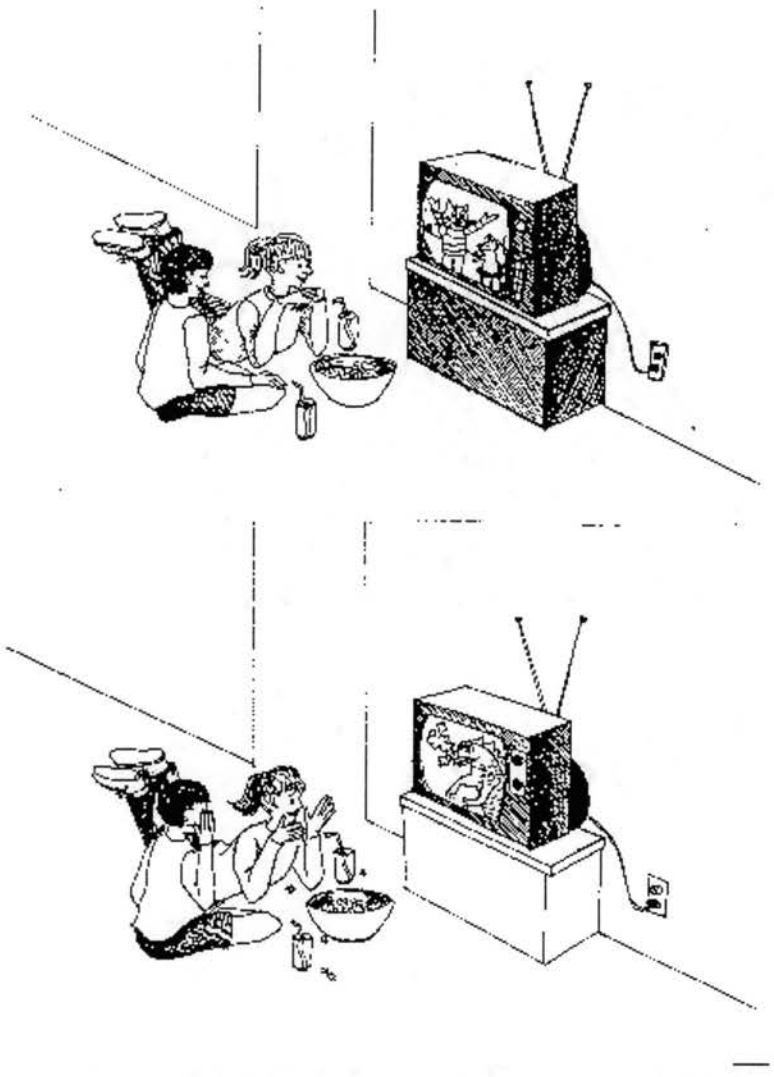


Figure 4. Example of pictures from the sensation seeking measure.

Parent's survey. Parents reported on their gun beliefs using a survey attached to the informed consent letter (See Appendix F). This survey consisted of nine items that included statements such as "Having a gun in the home puts children in danger" and "Carrying a gun makes people feel safe." Parents responded to each item, using a 7-point Likert response scale, ranging from 1=strongly disagree to 7=strongly agree. Total score on the survey ranged from 9-63, with the higher score indicating more positive gun beliefs. They also reported on their children's experiences with guns, including whether the children have received gun usage training and whether they have hunting or shooting experience. Experience could range from 0-4, with the higher score representing more experience with guns.

Injury Behavior Checklist. Parents also competed the IBC that measured children's actual risk taking behavior, and represented behaviors that have the potential to cause injury (e.g., jumping off furniture; handling sharp objects). Parents indicated the frequency with which their child engages in each behavior, ranging from 0=never to 4=very often, more than once/week (See Appendix G). Total scores ranged from 0-96, with the higher score indicating higher risk taking behavior.

Procedure

Letters of consent forms were sent home with all children from participating classes at a local elementary school. Parents completed the Injury Behavior Checklist (IBC) and beliefs about guns survey and returned both items with the child's consent form.

The experimenter individually interviewed each child for approximately 20 minutes at school. Participants were asked if they wanted to play a picture game to gain

verbal consent and told that they could stop the game at any time. They were then taken to a separate room for the duration of the interview session. The picture items from the rule conception and sensation seeking measures were randomly presented to each child. The experimenter paused between measures to explain to participants that they were moving on to a different picture set of pictures. The experimenter also measured children's exposure to violent television and videogames and surveyed the children on their beliefs about guns and their fear of victimization. After all measures were presented, the experimenter debriefed participants by explaining why it is important to follow safety rules. Specifically, they focused on the behaviors depicted in the measures. Children were told that the actions they saw in the pictures could cause injury to them if they attempted them without the assistance of an adult. The experimenter emphasized the importance of safety rules and stressed that the child should get help from a parent or teacher before doing anything they saw depicted in the pictures. All procedures for this study were conducted in accordance with the ethical research guidelines of the American Psychological Association.

CHAPTER V

RESULTS

Descriptive Analyses

The means and standard deviations for each of the measures are reported in Table 1. Analyses were also conducted to test the reliability of the various child measures used in the present study.

Table 1. Means, standard deviations, and reliability of measures.

	Mean	SD	Reliability*
Total Seriousness	7.88	1.30	-
Total Punishment	5.61	1.10	-
Child Gun Beliefs	13.29	4.56	.52
Violent TV Score	2.80	2.79	-
Videogame Violence Score	2.14	2.46	-
Sensation Seeking	3.31	2.28	.69
Fear of Victimization	17.31	5.52	.67
Injury Behavior Checklist	15.28	11.38	.90
Gun Experience	1.81	1.49	.77

* Cronbach's alpha
Note: Possible scores –Gun Beliefs 8-40; SS 0-10; Fear 7-35; IBC 0-96

Cronbach's index of internal consistency yielded alphas of .90 for the IBC and .69 for the sensation seeking measure, which were similar to results reported in past studies (Speltz et al., 1990; Potts et al., 1995; Potts, et al., 1997). The alpha for the fear of

victimization measure was considerably lower than the alpha that May (1999) reported (.90), although the reported mean of 17.31 was similar to May's findings. Results using this measure will therefore be interpreted with caution. The other measures were created specifically for this study and therefore, cannot be compared to past studies. The alphas associated with these measures were within acceptable ranges for new measures and the means were in the middle of the range, indicating no ceiling or floor effects for any of the new measures.

There were several goals for this study, each involving several hypotheses. The probability of a Type I error rate was maintained at .05 for all analyses, unless otherwise noted. When testing the relationships between violent media exposure or child characteristics and children's evaluations of seriousness and amount of punishment deserved for gun transgressions, a total score was calculated for each dependent measure, e.g., ratings of seriousness summed across all gun transgressions scenarios. Follow-up analyses examined correlations among the different measures and responses to each of the gun transgressions separately.

Study Goal 1

The first goal of the study was to examine the relationship between children's beliefs about guns and their exposure to violent media and two hypotheses were proposed to address this goal. Because the direction of the relationships was predicted *a priori*, one-tailed correlational analyses were used to test these hypotheses.

The first hypothesis predicted that children who watched violent television would have more positive beliefs about guns and would evaluate gun rule transgressions less seriously than children who watched little or no violent television. A Pearson product-

moment correlation revealed that the relationship between total violent television viewing and children's scores on the gun beliefs survey was non-significant, $r(77) = -.13, p = .13$, indicating that violent media exposure was unrelated to their general beliefs about guns.

The relationship between exposure to violent television and children's evaluations of seriousness for the gun safety transgressions was also non-significant, $r(77) = -.01, p = .48$, as was the relationship between violence exposure and ratings of amount of punishment deserved for gun rule transgression, $r(77) = -.14, p = .12$. As a follow-up to the overall hypothesis, the relationships between exposure to violent television and evaluations of seriousness and amount of punishment deserved were tested for each of the four gun transgressions separately. As shown in Table 2, none of the correlations was significant; indicating that exposure to violent television was unrelated to children's evaluations of any of the gun transgressions.

Table 2

Correlations Between Exposure to Violent Television and Evaluations of Seriousness and Amount of Deserved Punishment

Ratings	Gun Transgressions			
	Alone/Curious	Alone/Fear	Peer/Curious	Peer/Hostility
Seriousness	.01	-.04	-.07	.10
Punishment	-.12	-.16	-.09	.01

The second hypothesis was similar to the first, in that it predicted that children who reported playing violent videogames would have more positive general beliefs about guns and evaluate the gun transgressions less seriously than children who had little or no exposure to violent games. The correlation between exposure to violent videogames and

children's scores on the gun beliefs survey approached significance, $r(77) = .17$, $p = .07$, indicating that videogames exposure was weakly related to their general beliefs about guns. The relationships between exposure to violent videogames and children's evaluations of seriousness and amount of deserved punishment for the gun safety transgressions were both significant, $r(77) = -.26$, $p = .01$ and $r(74) = -.24$, $p = .02$, respectively, indicating that children who reported frequent violent videogame play evaluated the gun transgressions as less serious and deserving of less punishment than did children who played little or no violent videogames.

As in Hypothesis 1, follow-up correlations were conducted to examine the relationships between exposure to violent videogames and evaluations of seriousness and amount of deserved punishment for each of the four gun safety transgressions. As shown in Table 2, there was a significant negative relationship between exposure to violent videogames and evaluations of seriousness in both the alone/fear and peer/hostility transgressions, indicating that children who reported frequent violent videogame play evaluated those transgressions less seriously than children who played little or no violent videogames. Children with higher violent videogame exposure also evaluated the alone/curious and alone/fear transgressions as deserving less punishment than children with lower exposure.

Table 3

Correlations Between Exposure to Violent Videogames and Evaluations of Seriousness and Amount of Deserved Punishment

Ratings	Gun Transgressions			
	Alone/Curious	Alone/Fear	Peer/Curious	Peer/Hostility
Seriousness	-.18	-.21**	-.04	-.29*
Punishment	-.28*	-.27*	-.01	-.01

* $p \leq .01$; ** $p \leq .05$

Study Goal 2

The second study goal was to examine how the individual characteristics of sensation seeking, physical risk-taking, and fear of victimization related to children's beliefs about guns and gun safety. Correlational analyses (one-tailed) were used to test these hypotheses. Similar to procedures used to test Hypotheses 1 and 2, total scores for the seriousness and amount of punishment deserved variables (summed across scenarios) were examined as well as responses to individual gun transgressions.

Hypothesis 3 predicted positive relationships between sensation seeking and general beliefs about guns and between sensation seeking and children's evaluations of seriousness and amount of deserved punishment for gun safety transgressions. The correlation between sensation seeking and total scores on the gun belief survey was significant, $r(77) = .37$, $p < .001$, indicating that high sensation seekers had more positive beliefs about guns than low sensation seekers.

Correlational analyses revealed a significant relationship between sensation seeking and amount of punishment deserved, $r(78) = -.19$, $p = .05$, indicating that high

sensation seekers evaluated gun safety transgressions as deserving less punishment than did low sensation seekers. The correlation between sensation seeking and evaluations of seriousness for the gun transgressions was also in the predicted direction and approached significance, $r(78) = -.18, p = .06$. In addition, the relationships between sensation seeking and evaluations of seriousness and amount of punishment deserved were tested for each of the four transgressions. As shown in Table 4, there were significant relationships were between sensation seeking and evaluations of seriousness and punishment for the alone/curious scenario. All other correlations were non-significant.

Table 4

Correlations Between Sensation-Seeking and Evaluations of Seriousness and Amount of Deserved Punishment

Ratings	Gun Transgressions			
	Alone/Curious	Alone/Fear	Peer/Curious	Peer/Hostility
Seriousness	-.19*	-.13	-.04	-.08
Punishment	-.28**	-.15	.04	-.05

*$p < .05$; **$p = .01$.

Hypothesis 4 predicted that children who engaged in more physically risky behavior, as measured by the Injury Behavior Checklist (IBC), would have more positive beliefs about guns and evaluate the gun transgressions as less serious and deserving of less punishment, compared to children who took fewer physical risks. Correlational analysis revealed that the predicted relationship was not significant for scores on the gun beliefs survey, $r(78) = -.11, p = .18$. The relationships between risk taking and evaluations of seriousness and amount of deserved punishment were also not significant, $r(77) = .01$, and $r(77) = -.01$, respectively, $ps > .05$. Additionally, the relationships

between scores on the IBC and evaluations of seriousness and deserved punishment for each of the four transgressions were not significant (Table 5).

Table 5

Correlations Between Risk-Taking and Evaluations of Seriousness and Amount of Deserved Punishment

Ratings	Gun Transgressions			
	Alone/Curious	Alone/Fear	Peer/Curious	Peer/Hostility
Seriousness	.01	-.01	-.10	.13
Punishment	.03	.01	-.14	.05

Hypothesis 5 predicted a positive relationship between fear of victimization and general gun beliefs. However, the correlation was -.21, which was in the opposite direction than was predicted. As this was a one-tailed test, this correlation was not significant, indicating that children's fear of victimization was unrelated to their beliefs about guns. Hypothesis 5 also predicted a negative relationship between fear of victimization and evaluations of gun safety transgressions. However, the correlations were not significant for evaluations of seriousness or amount of deserved punishment, $r(77) = .07$, and $r(77) = .11$, respectively, $ps > .05$. The follow-up analyses, which examined each scenario separately, were also non-significant (Table 6).

Table 6

Correlations Between Fear of Victimization and Evaluations of Seriousness and Amount of Deserved Punishment

Ratings	Gun Transgressions			
	Alone/Curious	Alone/Fear	Peer/Curious	Peer/Hostility
Seriousness	.04	.11	-.09	.10
Punishment	.12	.15	-.03	-.02

Study Goal 3

The third study goal was to investigate if the motivational and/or social context of the gun rule transgressions would influence children's evaluations of the transgressions. Table 7 lists the means and standard deviations for seriousness and deserved punishment for the four gun transgressions. Two hypotheses were tested for this study goal.

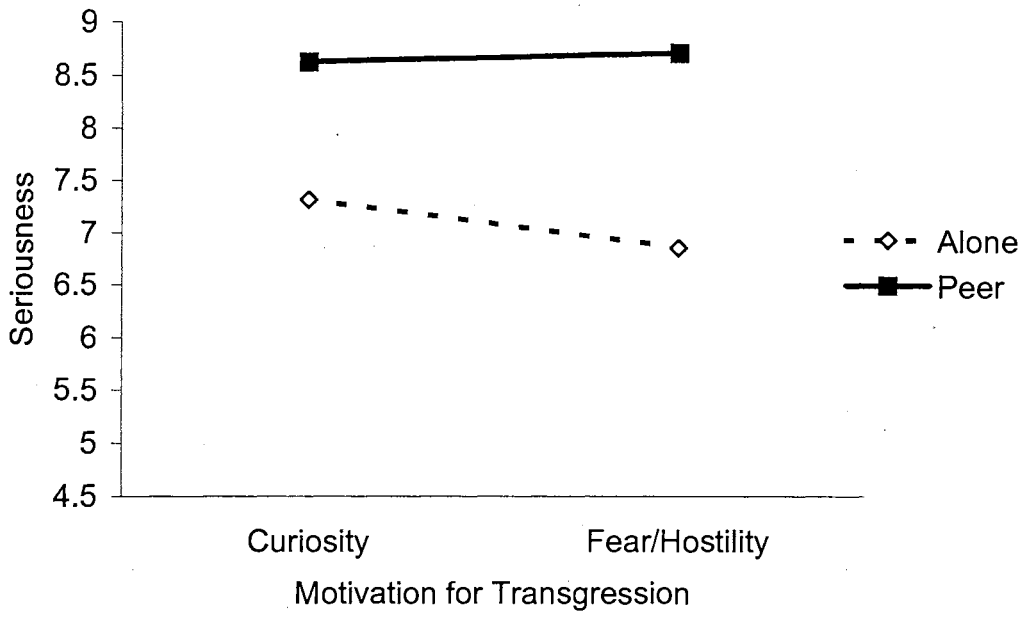
Table 7

Means and Standard Deviations for the Gun Transgressions

Measure	Scenarios	Mean	Standard Deviation
Seriousness	Alone/Curious	7.32	2.23
	Alone/Fear	6.86	2.53
	Peer/Curious	8.63	1.16
	Peer/Hostility	8.72	1.22
Punishment	Alone/Curious	4.90	1.83
	Alone/Fear	4.68	2.00
	Peer/Curious	6.46	1.07
	Peer/Hostility	6.41	.99

Hypothesis 6 predicted that within a social context, there would be differences in evaluations of seriousness and amount of deserved punishment between the different motivations. Specifically, in the transgressions where there were two children (the "peer" condition), the rule transgression motivated by hostility would be evaluated as more serious and deserving of more punishment than the transgression motivated by curiosity because of moral and safety training against antisocial behavior. Additionally, in the scenarios where there was only the actor (the "alone" condition), the transgression that was motivated by curiosity would be evaluated as more serious and deserving of more punishment than the transgression motivated by fear, in that the fear made the actor's gun use more justified. It was further predicted that there would be significant differences across social contexts, with the rule transgressions in the social contexts being evaluated as more serious than the transgressions in the alone contexts, again because of general education of moral and safety rules concerning guns.

As these predictions were *a priori*, the omnibus analysis of variance test was not conducted. Instead, a series of planned contrasts tested the hypothesis, looking at seriousness and amount of punishment deserved separately (See Figure 5). In addition to significant F-tests, partial Eta squared (η^2) was reported, as a measure of effect size.



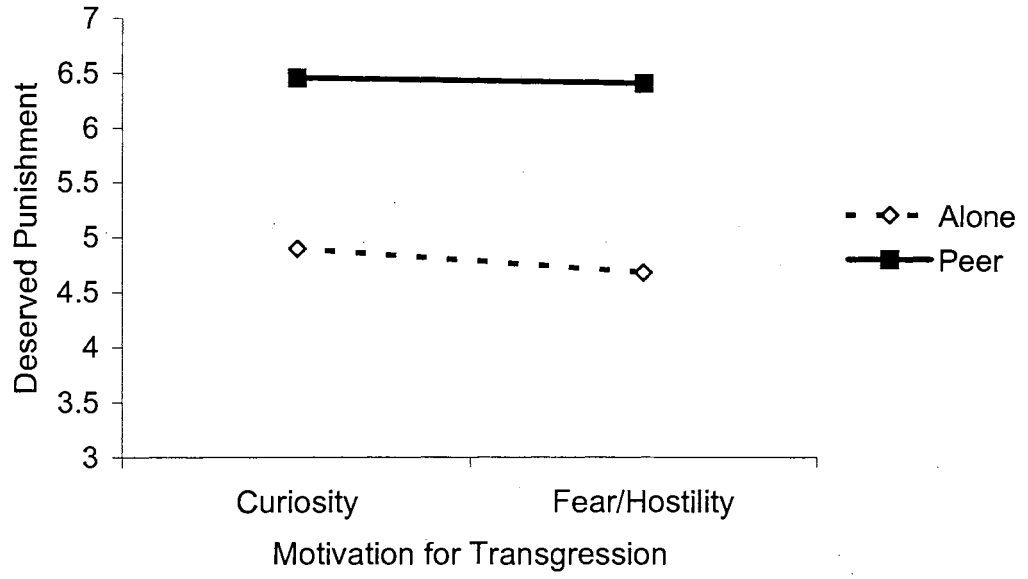


Figure 5. Evaluations of seriousness and amount of deserved punishment for each of the four gun transgressions.

The first part of hypothesis 6 stated that, in the scenarios where there were two children, the rule transgression that was motivated by hostility would be evaluated as more serious and deserving more punishment than the transgression motivated by curiosity. However, neither of the contrasts, one for seriousness and one for amount of deserved punishment, were significant, $F(1, 77) = .25$, and $F(1, 77) = .16$, $ps > .05$, respectively, indicating that motivation for the transgression did not influence the children's evaluations of seriousness or amount of deserved punishment within the "peer" condition of social context.

In the scenarios where the transgressor was alone, it was predicted that the transgression that was motivated by curiosity would be evaluated as more serious and deserving of more punishment than the transgression motivated by fear. The contrast for seriousness was not significant, $F(1,77) = 2.59$, $p = .11$, nor was the contrast for deserved punishment, $F(1,77) = 1.00$, $p = .32$, again indicating that motivation for transgression did not influence children's evaluations within the "alone" condition of social context.

There were, however, significant differences between social contexts. The contrast between peer/hostility vs. alone/fear indicated a significant difference in evaluations of seriousness, $F(1,77) = 43.84$, $p < .001$, $\eta^2 = .36$; children rated the scenario in which the actor pointed the gun at another child in hostility as a more serious rule transgression than when the actor pointed the gun at an unknown noise out of fear. This contrast was also significant for deserved punishment variable, $F(1,77) = 58.16$, $p < .001$, $\eta^2 = .43$. Finally, planned contrasts were conducted to investigate the differences between gun transgressions in the alone/curious and peer/curious conditions. Both tests, for the measure of seriousness and for deserved punishment, were significant, $F(1, 77) = 29.46$,

$p < .001$, $\eta^2 = .28$ and $F(1, 77) = 73.77, p < .001$, $\eta^2 = .49$, respectively, indicating that the peer/curious transgression was evaluated more harshly than the alone/curious transgression. As these tests reveal, the social context of the gun rule transgressions influenced children's evaluations, whereas motivation for transgression did not.

One final hypothesis, dealing with the rank order task of seriousness for the four transgressions, was proposed. Hypothesis 7 predicted that the rule transgression motivated by hostility would receive the highest average ranking, followed by both curiosity-motivated transgressions, and finally, fear-motivated transgression. Planned contrasts were conducted to test the mean differences between the average rankings. Table 8 presents the F-tests, along with effect sizes and significance levels, which correspond to each contrast.

Table 8

Planned contrasts to investigate the average rank order positions for each of the four transgressions

Planned Contrast	*F*	η^2	*p*
Peer/hostility vs. Peer/curious	78.52	.50	< .001
Peer/curious vs. Alone/curious	115.73	.60	< .001
Alone/curious vs. Alone/fear	5.23	.06	.03

As shown in the above table, Hypothesis 7 was partially supported. As predicted, the peer/hostility scenario received the highest average ranking ($M = 1.18$, $SD = .50$) and was significantly different from the ranking for peer/curious ($M = 2.64$, $SD = 1.23$).

However, the next highest ranking was alone/fear ($M = 4.29$, $SD = 1.67$) followed by alone/curious ($M = 4.86$, $SD = 1.48$), which was opposite of what was predicted.

Additional Analyses

Over and above the hypotheses presented, two other ancillary analyses were examined with the data, including a comparison between the gun transgressions and the fire transgressions, and an examination of the relationship among children's beliefs about guns, their experiences with guns, and parent's beliefs.

Comparisons of different rules. The first additional analysis investigated mean differences in ratings of seriousness and deserved punishment between the transgressions from the gun and fire settings. A 2 (rule type) by 2 (social context) by 2 (motive for transgression) repeated measures ANOVA was conducted for each of the two dependent measures, seriousness and amount of deserved punishment for transgression (see Figures 6 and 7).

The first ANOVA used seriousness of rule transgression as the dependent measure. Table 9 presents the means and standard deviations for evaluations of seriousness for each of the two rule types. Results showed that the three-way interaction between rule type, social context, and motive for transgression was non-significant, $F(1, 77) = 0.62$, $p > .05$. All two-way interactions were also non-significant, $ps > .05$.

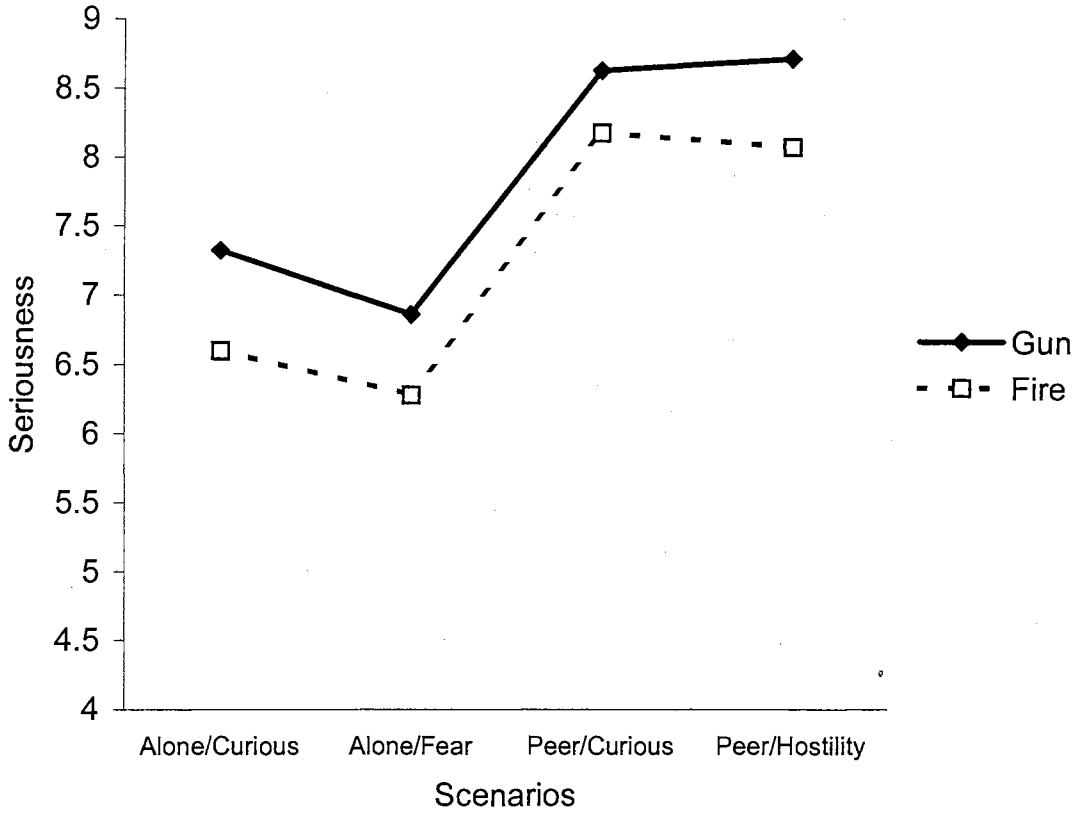


Figure 6. Evaluations of seriousness for the eight transgressions.

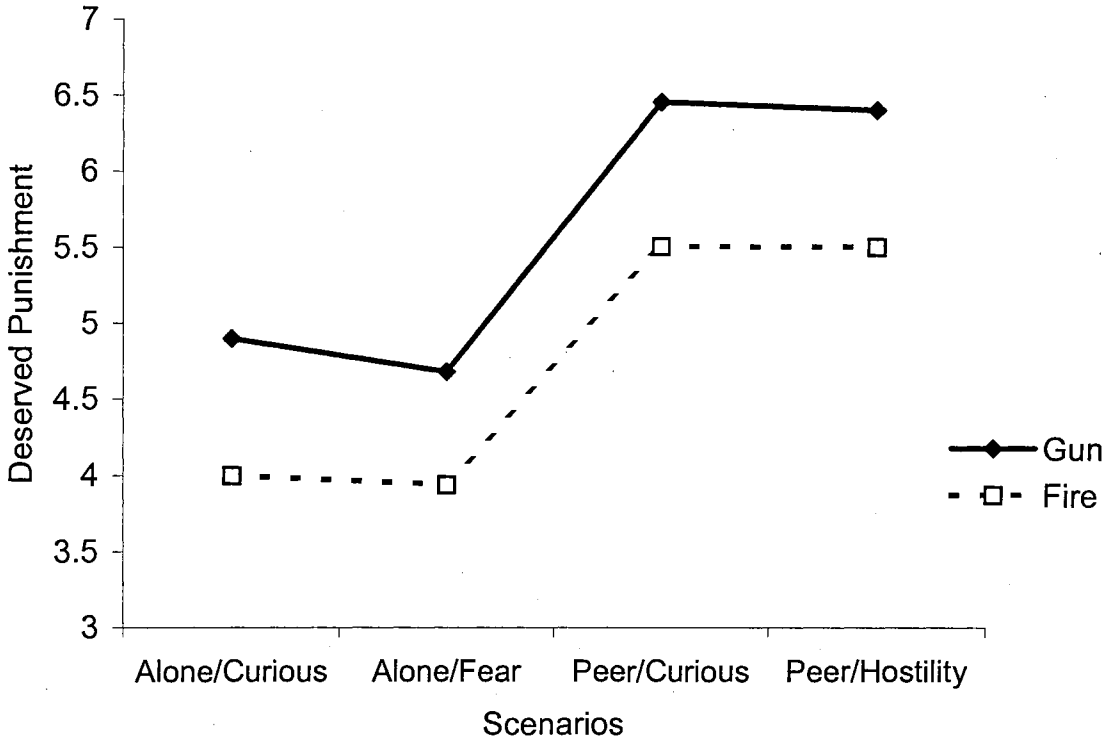


Figure 7. Evaluations of deserved punishment for the eight transgressions.

However, the main effect of rule type was highly significant. Children viewed gun transgressions as more serious than fire transgressions, $F(1, 77) = 13.84, p < .001, \eta^2 = .15$. In addition, there was a significant main effect of social context, $F(1, 77) = 82.16, p < .001, \eta^2 = .52$, indicating that children evaluated the transgressions in the peer contexts as more serious than transgressions in the alone contexts. The main effect of motivation for transgression was not significant, $F(1, 77) = 2.80, p > .05$.

Table 9

Means and standard deviations for evaluation of seriousness

Rule Type	Scenarios	Mean	Standard Deviation
Gun	Alone/Curious	7.32	2.23
	Alone/Fear	6.86	2.53
	Peer/Curious	8.63	1.16
	Peer/Hostility	8.72	1.22
Fire	Alone/Curious	6.60	2.37
	Alone/Fear	6.28	2.59
	Peer/Curious	8.18	1.20
	Peer/Hostility	8.08	1.26

The second repeated-measures ANOVA was conducted using amount of deserved punishment for rule transgression as the dependent variable. Table 10 presents the means and standard deviations for each of the rule types.

Table 10

Means and standard deviations for amount of deserved punishment

Rule Type	Scenarios	Mean	Standard Deviation
Gun	Alone/Curious	4.90	1.83
	Alone/Fear	4.68	2.00
	Peer/Curious	6.46	1.07
	Peer/Hostility	6.41	.99
Fire	Alone/Curious	4.00	1.91
	Alone/Fear	3.94	1.90
	Peer/Curious	5.51	1.63
	Peer/Hostility	5.51	1.56

The three-way interaction and all two-way interactions were non-significant, *p*s> .05. There was a significant main effect of rule type, $F(1, 77) = 46.24, p < .001, \eta^2 = .38$, indicating that children evaluated the gun transgressions as deserving more punishment than the fire transgressions. Additionally, there was a significant main effect of social context, $F(1, 77) = 122.14, p < .001, \eta^2 = .61$. Children evaluated the transgression as deserving more punishment when there was a peer included in the transgression scenario, compared to when the transgressor was alone. Again, the main effect of motivation for transgression was not significant, $F(1, 77) = .88, p > .05$.

Finally, the average rankings of seriousness for all eight transgressions were examined. Table 11 presents the means and standard deviations for each of the eight transgressions.

Table 11

Mean Rankings and Standard Deviations for each of the eight rule transgressions

Rule	Scenarios	*M*	*SD*
Gun	Alone/Curious	4.86	1.48
	Alone/Fear	4.29	1.67
	Peer/Curious	2.64	1.23
	Peer/Hostility	1.18	.50
Fire	Alone/Curious	7.17	1.04
	Alone/Fear	6.68	1.38
	Peer/Curious	5.36	1.58
	Peer/Hostility	3.81	1.50

A set of paired t-tests was conducted to test the mean differences between each of the rankings. Due to the elevated number of comparisons being performed, the Bonferroni alpha correction method was used to control for Type I error rate and results were evaluated using $p = .007$. Table 12 presents the results of these comparisons. The highest ranked scenario, the peer/hostility gun picture, was significantly different from the next highest ranking for the peer/curious gun scenario. There was also a significant difference between the peer/curious gun scenario and the peer/hostility fire scenario and between the peer/curious fire scenario and the alone/fear fire scenario. All other tests were non-significant.

Table 12

T-values and significance levels for each paired t-tests

Comparison*	Mean Difference	*t*	*p*
Peer/hostility Gun vs. Peer/Curious Gun	1.46	8.86	< .001
Peer/curious Gun vs. Peer/hostility Fire	1.17	4.51	< .001
Peer/hostility Fire vs. Alone/Fear Gun	.49	1.57	.12
Alone/fear Gun vs. Alone/curious Gun	.56	2.29	.03
Alone/curious Gun vs. Peer/Curious Fire	.50	1.67	.10
Peer/Curious Fire vs. Alone/fear Fire	1.32	5.43	< .001
Alone/Fear Fire vs. Alone/Curious Fire	.49	2.09	.04

*Note: For each comparison, first scenario mentioned was ranked higher than second scenario.

Children's gun beliefs. Other ancillary analyses were conducted to examine the relationship between children' s beliefs about guns, their gun experience, their parent's beliefs, and evaluations of gun transgressions. Correlational analyses revealed a positive relationship between children's scores on the general gun beliefs survey and parent's scores on the parent survey, $r(76) = .23$, $p = .05$, indicating that the children whose parents had positive beliefs about guns had positive gun beliefs themselves. However, the correlations between children's total evaluations of seriousness and deserved punishment and parent's gun beliefs were not significant, $r(77) = .06$ and $r(77) = .03$, respectively, as

were the correlations between evaluations and children's general beliefs, $r(77) = -.14$, and $r(77) = -.15$, $ps > .05$, respectively.

The correlation between children's experience with guns and parent's beliefs was not significant, $r(77) = .18$, $p = .12$, nor was there a significant relationship between gun experience and their scores on the general gun beliefs survey, $r(76) = .09$, $p > .05$. As shown in Table 13, gun experience was positively related to evaluations of seriousness of the gun transgressions, but only for the alone/curious scenario. All other relationships were non-significant.

Table 13

Correlations Between Children's Experience with Guns and their Evaluations of Seriousness and Amount of Deserved Punishment

Ratings	Gun Transgressions			
	Alone/Curious	Alone/Fear	Peer/Curious	Peer/Hostility
Seriousness	.33*	.08	.17	.15
Punishment	.17	-.01	.07	.01

*p < .01

CHAPTER VI

DISCUSSION

The purpose of this research study was to examine determinants of children's beliefs about guns. Specifically, this study investigated the relationship between children's exposure to media violence and their beliefs about guns as well as individual difference variables. Several research questions and hypotheses were proposed to examine these differences. It is important to note that, in general, children evaluated the gun transgressions negatively. The means for seriousness and amount of deserved punishment were at the high end of the range, indicating that most children viewed the transgressions seriously. The evaluations for amount of deserved punishment, in particular, clearly showed children's beliefs about playing with a gun; most children believed that the transgressor should be grounded for at least a week and many of the children indicated that the police should be called to talk to the transgressor. These high scores on the evaluations may have been exacerbated by the testing situation, which resulted in some demand that the children sow strong negative responses to rule transgressions. However, these high evaluations of seriousness and deserved punishment may also reflect the social norm, in which children believe that it is inappropriate to play with guns.

Despite the restricted range of evaluations, results showed individual differences in children's beliefs about guns. Several of the hypotheses about individual differences were substantiated, although not all predictions were supported. Interpretations of the

significant findings as well as speculations for the lack of support in other hypotheses are discussed below.

Influence of violent media on child gun beliefs

One of the major purposes of the study was to examine the influence of violent media exposure on children's beliefs about guns. As predicted, children who played the more violent games evaluated the gun transgressions as less serious and deserving of less punishment than did the children who played mildly violent or non-violent games. In addition, the relationship between children's exposure to violent videogames and their scores on the general gun beliefs survey approached significance. These findings are similar to past experimental research that has found a significant causal relationship between exposure to violent videogames and aggressive thoughts and affect (Anderson & Bushman, 2001). Although, the present study was a correlational design and the first to specifically examine the violent videogame-gun beliefs link, the findings suggest that children's beliefs about guns may be influenced by their exposure to violent videogames.

Moreover, when the four gun transgressions were examined individually, we see more clearly the nature of children's beliefs. Children who frequently played violent videogames believed it was less serious to break the rule when responding out of fear or hostility; however, this pattern was not apparent in the transgressions in which the actor pointed the gun at a peer out of curiosity or was alone and curious. This may be due to the nature of violent videogames, in which the game player fights hostile "bad guys" to protect themselves from attack. In the alone/fear and peer/hostility conditions, children who have had more experience with violent videogames may have judged the gun transgressions less seriously because the actor was "justified" in breaking the rule.

However, when there was no threat, such as in the curiosity transgressions, exposure to violent videogames was unrelated to children's evaluations of gun transgressions. It is possible that the children believed gun transgressions were not justified when the actor was breaking the rule out of curiosity, especially when the actor endangered another person out of curiosity, and thus the transgressions were more serious.

In addition to the prediction that violent videogame exposure would be related to children's gun beliefs, it was also predicted that children who watched violent television would have more positive beliefs about guns and would evaluate gun transgression less seriously than children who watched little or no violent television. However, this hypothesis was not supported. Children's scores on the gun beliefs survey and their evaluations of seriousness and amount of punishment deserved for gun safety transgressions were unrelated to the amount of violent television they were watching. Although, past research has found that exposure to violence influences cognitions and behavior (Bandura, Ross, & Ross, 1963; Gerbner, Gross, Morgan, & Signorielli, 1994; Huesmann, 1988; Murray, 1980), the present study is the first to specifically look at the relationship between exposure to violent television and children's beliefs about devices of violence, namely guns. It is possible that, at this age, children's beliefs about guns per se are not significantly influenced by what they watch on television. However, the validity of the television violence measure may have limited the results. Although this television survey format has been used successfully in the past (DiLillo, Potts, & Himes, 1998; Tangney, 1988), this was the first time it has been used to specifically measure children's exposure to violent television. It is possible that it is not a sensitive enough measure for accurate assessment of children's violence exposure and therefore makes it

difficult to examine confidently the relationships between their exposure and their beliefs about guns.

Personality and experiential predictors of gun beliefs

A secondary purpose of this research study was to examine individual child characteristics and their relationship with gun beliefs. It was first predicted that sensation seeking would be positively correlated to children's scores on the general beliefs survey and negatively correlated to their evaluations of gun safety transgressions. Findings supported this hypothesis, revealing that high sensation seekers had more positive beliefs about guns and evaluated the gun transgressions as less serious and deserving of less punishment than did low sensation seekers. Although the present study is the first to examine the relationship between sensation seeking and gun beliefs, these findings offer support to past findings with adults that sensation seeking influences cognition (Arnett, 1996; Greene, Krcmar, Walters, Rubin, & Hale, 2000, Zuckerman, 1994). Additionally, these results support past research findings that sensation seeking is related to children's preferences for risky behavior and activities (Kafry, 1982) as well as their cognitive assessments of risky situations (DiLillo, Potts, & Himes, 1998). While the results from the present study are correlational in nature, sensation seeking has been shown to be a relatively stable personality trait and it can be speculated that this trait influences children's beliefs about guns. While all children may see guns as dangerous, high sensation seekers may be more interested in them than low sensation seekers and that interest results in their evaluating gun transgressions less seriously.

When the gun transgression scenarios were examined individually, results revealed that sensation seeking was related to evaluations of seriousness and deserved

punishment only for the transgressions in which the actor was alone. It is possible that children regarded the two transgressions in which the actor points the gun at another child as moral transgressions, whereas the other transgressions (in which the actor was alone) were prudential transgressions, and therefore supports past research that has shown that children evaluate moral transgressions more seriously than prudential transgressions (Stern & Peterson, 1999; Tisak & Turiel, 1984). Thus, moral socialization about guns and hostility towards others may be sufficiently strong or salient as to override any effect of sensation seeking motives on rule evaluations, whereas the sensation-seeking motive is revealed when the moral evaluation is not necessary, as in the alone/curious scenario.

The Injury Behavior Checklist was used as another indicator of a propensity to engage in risky behavior and it was predicted that high risk takers would have more positive beliefs about guns and evaluate gun safety transgressions less seriously than low risk takers. However, results did not support this hypothesis. Children's scores on the IBC were unrelated to their scores on the gun beliefs survey or to their evaluations of seriousness and amount of deserved punishment for the gun transgressions. One possibility for the non-significant results is that the IBC may not have been an appropriate measure of risk taking given the age of the sample used in this study. The relationship between sensation seeking and scores on the IBC was not significant, which is contrary to past findings (Kafry, 1982; Potts, Martinez, and Dedmon, 1995), and the mean age of the child participants in this study was 9.6 years old. Potts, et al., (1997) showed that the IBC might not be appropriate for children over the age of 9 years old. Primarily, children become more independent from their parents as they get older, and thus, parents may not be a reliable source for a measure of their child's risk taking

behavior, as the children begin engaging in risky behavior outside their parent's direct supervision. Possibly, a self-report of risky behavior may have produced a more accurate measurement of children's risk taking behavior and allowed us to confidently examine the relationship between risk taking and gun beliefs.

Fear of victimization has been shown as a predictor of positive regard for guns in adolescents (May, 1999) and another purpose of the present study was to examine the relationship between fear of victimization and younger children's gun beliefs. It was predicted that there would be a positive relationship between fear of victimization and gun beliefs and children's evaluations of gun transgressions. However, this prediction was not supported. The correlation between fear of victimization and children's score on the gun beliefs survey was non-significant. These results are inconsistent with May's (1999) findings where fear of victimization was positively correlated with gun beliefs. Additionally, the correlations between fear of victimization survey and evaluations of seriousness and amount of punishment deserved were not significant, indicating that children's level of fear was unrelated to their evaluations of the gun transgressions.

It is unclear why fear of victimization was unrelated to young children's beliefs about guns. May used his fear of victimization survey to study adolescents from an urban setting, whereas the adapted survey used in the present study was used to measure young children from a "small town" environment. It is possible that young children, especially from a small community, do not see guns as a source of protection, as suggested by May's findings, but as dangerous objects used only to hurt or kill.

In addition to the planned analyses that examined individual differences in children's gun beliefs, ancillary analyses examined children's beliefs about guns in

relationship to their parent's beliefs. It can be speculated that parent's use their own beliefs to instruct children on gun issues. Results showed that children whose parents had positive beliefs about guns had positive beliefs themselves, thus supporting this speculation. If parents have positive beliefs about guns, they may be more likely to talk to children about the usefulness of guns; conversely, if parents feel negatively about gun issues, they would communicate their attitudes to their children.

However, children's evaluations of gun safety transgressions were unrelated to their parent's beliefs about guns. This is consistent with the findings that children's general beliefs about guns were unrelated to their evaluations of specific gun transgressions. The two measures of gun beliefs, via the gun belief survey and the gun safety transgressions, were designed to explore different aspects of gun beliefs. Therefore, it is logical that the children's general beliefs would be related to their parent's general beliefs, whereas the more specific evaluation of gun transgressions would be less correlated.

Transgression scenarios: The influence of social and motivation context and rule type

A final purpose of the present study was to examine if the social and motivation context of the scenarios would influence children's evaluations of gun transgressions. Results showed that there was an effect of social context but not motivational context. C Children evaluated the transgressions in which the actor was with another person more seriously than they did when actor was alone. Children in the present study may have evaluated the gun transgressions in the peer conditions as moral transgressions rather than "merely" safety transgressions, whereas in the alone conditions, children focused more on the safety aspect of the transgressions. Therefore, these findings support some moral

development research (Stern & Peterson, 1999 Tisak & Turiel, 1984), which has shown that children evaluate moral rule transgressions more seriously than safety transgressions.

It was further predicted that children would rank the two peer transgressions as the most serious transgressions, followed by the two alone transgressions. Again, this hypothesis was supported, indicating that children were using social context to make their evaluations of seriousness. However, by using the rank order method, we can also see that children appeared to consider the motivational context of the transgressions as well as the social context. Although they evaluated the two peer transgressions (hostile and curious) equally on seriousness and amount of punishment deserved, when forced to choose, they picked the hostility scenario over the curiosity scenario as the most serious.

Additionally, results showed that children evaluated the gun transgressions more harshly than the fire transgressions. These findings were consistent in both social context conditions, alone and peer transgressions, indicating that children believed breaking a rule about playing with a gun was always more serious than breaking a rule about playing with fire. Furthermore, when asked to rank the pictures from most serious to least serious, children ranked the peer gun transgressions first and second, with no differences between the other rankings. These findings reveal that, regardless of individual differences or violent media exposure, children recognize that guns are dangerous. It is possible that children are socialized to believe that guns are used primarily in antisocial situations, whereas fire transgressions are not, and therefore gun transgressions are intrinsically from the moral domain. This understanding may be a result of socialization from parents, school, or media.

Limitations

Several aspects of the present methodology limit interpretation of certain significant results as well as limit detection of individual differences in children's beliefs about guns. One concern is that the children in this study came from a small community. This may have let to a biased sample for several of the measures, including fear of victimization and children's experiences with guns. Of particular concern is the fear of victimization measure. Although the mean and standard deviation for the present study were similar to those reported by May (1999), the internal consistency index was lower, compared to the alpha reported by May. It is possible that this measure may not be an appropriate measure of fear of victimization for younger children, especially children from a smaller community. The fact that this measure was not as stable as the measure used in May's study may have weakened our ability to investigate the relationship between fear of victimization and gun beliefs in young children.

An additional limitation is that the television violence measure may have been an invalid measure of children's exposure. A major concern is that the survey of violent television shows presented to the children were not representative of the types of shows the children normally watch. Children were asked to indicate how often they watched the pre-selected shows, rather than free recall of the shows they normally watch. Although we chose this method of reporting because it was easier for the children to recognize if they watched the shows, the mean score on the survey was small (2.80 out of a possible 22). Anecdotally, most of the children in this sample failed to recognize many of the primetime shows on the survey but easily identified the cartoon shows. The shows selected for this measure were chosen randomly, based solely on the violent content of

the programs. Examining viewer ratings for those shows that young children are actually watching and including those programs that have violent content may create a more valid measure. This may result in a more comprehensive measure of children's exposure to violent television, and may better reveal the relationship between violence exposure and gun beliefs, by providing more information as to what children are actually watching.

Future Studies

The present study was the first to examine young children's gun beliefs in relation to their exposure to violent media such as television and videogames. The findings from the study are important in that they revealed a relationship between children's exposure to violence and their gun beliefs. However, this study was primarily exploratory in nature and therefore results must be interpreted with caveats.

Future research should further examine the violence exposure-gun beliefs relationship using experimental and longitudinal designs. Only by experimentally manipulating violence exposure and measuring children's gun beliefs will we be able to examine if this relationship is causal. One possible study may involve using a pretest-posttest design to expose children to different levels of violent videogames and then measure any change in their gun beliefs.

In addition, future studies may examine children's behavior with guns and compare their behavior to their beliefs. The present study was focused on children's gun beliefs, and it would be of interest to examine if the way children think about guns predicts their behavior with them, and if individual differences in their behavior with guns are related to their beliefs. Using Hardy, Armstrong, Martin, and Strawn (1996) methodology, we may be able to identify the beliefs-behavior link in regards to guns. The

ultimate goal in the gun research that focuses on children is to design prevention programs to curtail gun-related injuries and deaths caused by children violating gun safety rules. Only by conducting such studies will effective prevention programs be designed.

Conclusions

By focusing on evaluations of gun transgressions along with general beliefs, the present study has revealed some important findings in regards to the way young children think about guns. These findings suggest that there are contextual influences on children's gun beliefs, including an intrinsic moral or social component to gun transgressions that may or may not inhibit actual behavior with firearms. However, these findings also suggest that there may be individual differences in children's beliefs about firearms, such as exposure to violent media and personality traits such as sensation seeking, and further research on these individual differences may allow better understanding of the factors that influence children's behavior with firearms. These findings are important, as there are few instances in which children's overt behaviors with firearms can be studied, because of practical and ethical considerations.

Gun-related accidents are of great concern to physicians, and parents, and gun safety issues continue to be important topics for researchers. The lack of research of children's beliefs about guns dictates the need for studies such as the present project, in hopes of better understanding the way young children think about guns. By first understanding what children think about guns and how those beliefs are formed, we may be able to devise better educational efforts to prevent accidental injuries with guns.

CHAPTER VII

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APPENDIX A

SURVEY OF CHILD BELIEFS ABOUT GUNS

(Response scale: 1= strongly disagree, 2 = disagree 3 = unsure, 4 = agree, 5 = strongly agree)

1. I don't like being around people with guns because someone could end up getting hurt.	1 2 3 4 5
2. It would be exciting to hold a loaded gun in my hand.	1 2 3 4 5
3. Carrying a gun makes people feel powerful and strong.	1 2 3 4 5
4. I wish everyone who had a gun would get rid of it.	1 2 3 4 5
5. It would make me feel powerful to hold a gun in my hand.	1 2 3 4 5
6. Carrying a gun makes people feel safer.	1 2 3 4 5
7. People feel nervous around someone with a gun and they want to get away them.	1 2 3 4 5
8. I'd like to have a gun so that people would look up to me.	1 2 3 4 5

APPENDIX B

RULE TRANSGRESSION VIGNETTES AND PICTURES

Instruction for pictorial rule following measure:

In this part, we are going to look at some pictures of children doing different things. I will show you pictures of a boy/girl doing something and tell you a story. Then I will ask you some questions about the story.

(Present all four pictures from one set, and tell them the story that corresponds with each. Let the child look at the pictures for a few seconds and then ask each question below for each part of the scenario)

Seriousness: Do you think it was bad to _____? How bad is it to _____ when the rule says not to do that?
Amount of deserved punishment: How much punishment does the actor deserve?
_____

Gun Transgressions

A. This picture shows John at home playing by himself. He is bored and looking for something to do. There is a rule in John's house that you do not touch Dad's gun. However, today John breaks the rule. He opens the closet where Dad keeps the gun, picks it up, and points it at a chair.

B. This picture shows John at home playing by himself. He hears a scary noise outside. There is a rule in John's house that you do not touch dad's gun. However, today John breaks the rule. He opens the closet where Dad keeps the gun, picks it up, and points it at the noise.

C. This picture shows John at home playing with his friend Sam. They are bored and looking for something to do. There is a rule in John's house that you do not touch dad's gun. However, today John breaks the rule. He opens the closet where Dad keeps the gun, picks it up, and points it at Sam.

D. John is at home playing with his friend Sam and they start arguing. Sam gets very mad and threatens to hit John. There is a rule in John's house that you do not touch dad's gun. However, today John breaks the rule. He opens the closet where Dad keeps the gun, picks it up, and points it at Sam.

Fire Transgressions

A. This picture shows John at home playing by himself. He is bored and looking for something to do. There is a rule in John's house that you do not touch Dad's lighter. However, today John breaks the rule. He opens the drawer where Dad keeps the lighter, picks it up, and tries to burn a book.

B. This picture shows John at home playing by himself. He hears a scary noise outside. There is a rule in John's house that you do not touch dad's lighter. However, today John breaks the rule. He opens the cupboard where Dad keeps the lighter, picks it up, and tries to light a candle.

C. This picture shows John at home playing with his friend Sam. They are bored and looking for something to do. There is a rule in John's house that you do not touch dad's lighter. However, today John breaks the rule. He opens the closet where Dad keeps the lighter, picks it up, and tries to burn Sam's book.

D. John is at home playing with his friend Sam and they start arguing. Sam gets very mad and threatens to hit John. There is a rule in John's house that you do not touch dad's lighter. However, today John breaks the rule. He opens the closet where Dad keeps the lighter, picks it up, and tries to burn Sam's book.

APPENDIX C

TELEVISION AND VIDEOGAMES QUESTIONNAIRE

How often do you watch these programs (Response scale 2 = Always, 1 = sometimes, 0 = never)

Cartoons				Primetime Shows			
The X-Men	2	1	0	NYPD Blue	2	1	0
Power Rangers	2	1	0	ER	2	1	0
Pokemon	2	1	0	Law and Order	2	1	0
Batman	2	1	0	The X-Files	2	1	0
Celebrity Deathmatch	2	1	0	The Sopranos	2	1	0
Sabrina	2	1	0	The Fugitive	2	1	0
Wishbone	2	1	0	Dark Angel	2	1	0
Other cartoons:	2	1	0	Buffy the Vampire Killer	2	1	0
	2	1	0	Friends	2	1	0
Daytime Shows				Dharma and Greg	2	1	0
Xena, Warrior Princess	2	1	0				
WWF Wrestling	2	1	0				
The Reading Rainbow	2	1	0				
Rosie O'Donnell	2	1	0				
Sports	2	1	0				

What are the names of videogames you own at home or play at a friend's house. What do you do?

_____

_____

_____

_____

_____

_____

APPENDIX D

SURVEY OF GENERAL CHILDHOOD FEARS

(Response scale: 1= strongly disagree, 2 = disagree 3 = unsure, 4 = agree, 5 = strongly agree)

1. I'm afraid to come to school sometimes.	1 2 3 4 5
2. I'm afraid of getting beaten up.	1 2 3 4 5
3. I'm afraid when I walk to school.	1 2 3 4 5
4. I'm afraid to go to the school lunchroom sometimes	1 2 3 4 5
5. I'm afraid of other kids taking my money or property.	1 2 3 4 5
6. I'm afraid of getting shot.	1 2 3 4 5
7. I'm afraid of walking alone in my neighborhood.	1 2 3 4 5

APPENDIX E

SENSATION SEEKING SCALE (ACTIVITY PREFERENCES)

Introduction: In this part, I will ask you some questions about things that you like to do. For each question, I will name two things, and you choose which of the two things that you would rather do. Here is an example: If I said, "when you are at home after school, would you rather play a game outside [short pause] or watch TV inside", which would you rather do? [Have child respond; repeat choice if necessary and reverse order of choices: A or B, B or A]. That's good. Ok, here are some more questions:

A. If you had to choose, would you rather
   0 make a clubhouse on the ground beside a tree
   1 climb as high as you could in the tree

B. When you play in the snow, would you rather
   0 build a snowman
   1 sled down a hill

C. When you ride your bicycle, would you rather
   0 ride through the neighborhood and look at things
   1 do tricks like pop wheelies and jump over things

D. When you grow up and have a job, would you rather
   0 work in a fancy office with nice people
   1 be a pilot and fly an airplane

E. If you went to an amusement park, would you rather
   0 ride the train that goes all around the park
   1 ride a roller coaster that goes upside down

F. When you grow up, would you rather be
   0 a doctor that works in an office
   1 an ambulance driver that rescues people

G. If you were walking on the sidewalk, and there was a mean dog on somebody's front porch, would you
   0 cross to the other side of the street away from the dog
   1 stay on the same side and run past the dog's yard

H. Would you rather play games where
   0 there were several winners and everybody got something in the game
   1 there was only one winner and they beat everybody else in the game

I. If you went to a lake with your family, would you rather
   0 swim in an inner tube near the shore
   1 be pulled behind a boat on an inner tube

J. Would you rather watch
   0 a funny cartoon that made you laugh
   1 a monster movie that made you scared

APPENDIX F

PARENTAL SURVEY OF GUN BEHAVIORS

Please respond to the following statements, using the below response scale:

1 = Strongly disagree; 2 = moderately disagree; 3 = slightly disagree; 4 = no opinion; 5 = slightly agree; 6 = moderately agree; 7 = Strongly agree.

1. People who own a gun should be required to have training on gun safety	1	2	3	4	5	6	7
2. Having a gun in the home puts children in danger	1	2	3	4	5	6	7
3. All guns should have mandatory child safety mechanisms installed prior to sale of the weapon.	1	2	3	4	5	6	7
4. Most children know where their parents keep the household guns.	1	2	3	4	5	6	7
5. As the homicide rate increases, so does a person's risk of getting shot	1	2	3	4	5	6	7
6. People are more likely to be shot by a stranger than by someone they know	1	2	3	4	5	6	7
7. Carrying a gun makes people feel safe.	1	2	3	4	5	6	7
8. Children who live in a house with a gun should be trained on the proper use of the weapon	1	2	3	4	5	6	7
9. Parents, not the government, are responsible for the safety of children who are exposed to guns.	1	2	3	4	5	6	7

Has your child ever used a gun for recreation or sport?	YES	NO	
Does your child know where your gun is kept?	YES	NO	N/A
Have you ever discussed gun safety with the parents of your child's friends?	YES	NO	
Has your child ever been instructed in gun use?	YES	NO	
Has your child ever watched someone use a gun?	YES	NO	

APPENDIX G

INJURY BEHAVIOR CHECKLIST

Use the 0-1-2-3-4 scale to indicate how often your child may show the behaviors listed. Circle the appropriate number for each of the 24 items.

	Not at all	Very seldom (1 or 2 times in all)	Some-Times (about once/ month)	Pretty often (once/ week)	Very Often (more than once/ week)
1. Runs out into the street	0	1	2	3	4
2. Jumps off furniture or other structures	0	1	2	3	4
3. Jumps down stairs	0	1	2	3	4
4. Rides bike in unsafe areas	0	1	2	3	4
5. Runs or jumps into things	0	1	2	3	4
6. Falls down	0	1	2	3	4
7. Plays with fire	0	1	2	3	4
8. Puts fingers or objects near appliances or outlets	0	1	2	3	4
9. Leaves the house without permission	0	1	2	3	4
10. Refuses to use seat belt or to stay seated in car	0	1	2	3	4
11. Plays with sharp objects	0	1	2	3	4
12. Pull/pushes over furniture or heavy objects	0	1	2	3	4
13. Falls out window or down stairs	0	1	2	3	4
14. Puts objects or nonfood items in mouth	0	1	2	3	4
15. Gets scratches, scrapes, bruises, during play	0	1	2	3	4
16. Takes chances on playground equipment	0	1	2	3	4
17. Tries to climb on top of furniture or cabinets	0	1	2	3	4

18. Stands on chairs	0	1	2	3	4
19. Explores places that are off limits	0	1	2	3	4
20. Gets into dangerous substances	0	1	2	3	4
21. Plays carelessly or recklessly	0	1	2	3	4
22. Comes in contact with hot objects	0	1	2	3	4
23. Behaves carelessly in or around water hazards	0	1	2	3	4
24. Teases and/or approaches unfamiliar animals	0	1	2	3	4

APPENDIX H

IRB REVIEW FORM

Oklahoma State University
Institutional Review Board

Protocol Expires: 6/10/02

Date : Thursday, December 13, 2001 IRB Application No AS0172

Proposal Title: CHILDREN'S BELIEFS ABOUT GUN SAFETY

Principal
Investigator(s) :

Nikki Yonts
405 N Murray
Stillwater, OK 74078

Dr. Richard Potts
215 N. Murray
Stillwater, OK 74078

Reviewed and
Processed as: Expedited (Spec Pop)

Approval Status Recommended by Reviewer(s) : Approved **Modification**

Please note that the protocol expires on the following date which is one year from the date of the approval of the original protocol:

Protocol Expires: 6/10/02

Signature: Carol Olson

Carol Olson, Director of University Research Compliance

Thursday, December 13, 2001
Date

Approvals are valid for one calendar year, after which time a request for continuation must be submitted. Any modifications to the research project approved by the IRB must be submitted for approval with the advisor's signature. The IRB office MUST be notified in writing when a project is complete. Approved projects are subject to monitoring by the IRB. Expedited and exempt projects may be reviewed by the full Institutional Review Board.

VITA

Nikki E. Yonts

Candidate for the Degree of

Doctor of Philosophy

Thesis: CHILDREN'S BELIEFS ABOUT FIREARMS AND THEIR EXPOSURE TO VIOLENT MEDIA

Major Field: Psychology

Biographical:

Education: Received Associates Degree in Arts and Science from Columbia Basin Community College in December 1989; received Bachelor of General Science from Washington State University in May 1996; received Master of Science degree from Oklahoma State University in December 2000. Completed the requirements for the Doctor of Philosophy degree at Oklahoma State University in August 2002.

Experience: Employed by Oklahoma State University, Department of Psychology as a graduate teaching instructor and teaching assistant, 1998 to present; employed by Washington State University, Tri-Cities Branch Campus, Richland, Washington as a teaching assistant, 1995-1996; volunteered as research assistant for Washington State University, 1995-1996; volunteered for Washington State Department of Corrections, 1994-1996.

Professional Memberships: Society for the Research of Child Development