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NIGHTMARES, ANXIETY, AND KINDERGARTEN-AGED CHILDREN

An Honors Thesis submitted to the

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And  
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Nightmares, Anxiety, and Kindergarten-Aged Children

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## Abstract

The current study investigated the relationship between nightmares and anxiety traits in young children. Nightmare experience was measured through parent and child reports of nightmare occurrence, frequency, and distress. A sample of 37 parent-child pairs completed a demographic questionnaire, parent and child reported nightmare questionnaire, and a parent-reported anxiety scale. Results indicated that children reported significantly more nightmares than their parents, however there was no difference between parent versus child reported nightmare distress. Results indicated that parents who rated their children to have higher anxiety also reported their children to have more frequent nightmares. A similar trend, that was approaching significance, was found across anxiety and child-reported nightmare frequency. Results show a significance difference in anxiety scores of children across child-reported distress, but there was no such difference for parent reported distress. No gender differences were found. Implications and future research are discussed.

### Nightmares, Anxiety, and Kindergarten-Aged Children

Approximately 55% of children between the ages of 6 and 10 report experiencing nightmares (Mindell & Barrett, 2002), with 10% to 50% of children's nightmares resulting in the need for parental comforting during the night (Mindell & Owens, 2010). Often, children who report nightmares also experience intense distress, which can contribute to sleep loss, increased irritability, and difficulty concentrating during the day. In addition, when children suffer from nightmares and require parental comforting, parents' sleep and daytime mood suffer. In recent years, studies have suggested that there may be a relationship between nightmares and anxiety. Children who reported intense distress from nightmares were more likely to have generalized anxiety related traits (Coolidge, Segal, Coolidge, Spinath, Gottschling, 2010; Mindell & Barrett, 2002).

Although a large number of children experience nightmares, few studies have extensively examined the etiology of nightmares. A couple studies suggest a relationship between nightmares and anxiety. In other words, children who report intense distress from nightmares are more likely to also report having generalized anxiety traits (Coolidge et al., 2010; Mindell & Barrett, 2002). The current study aims to contribute to the current literature on nightmares by measuring the prevalence and distress of nightmares and anxiety traits through child and parent reports from a rural population in central Illinois. Before we can fully understand parasomnias and nightmares, we need to turn our attention to the architecture of sleep.

#### **Stages of Sleep**

Sleep is typically broken down into two distinct sleep stages; non-REM (NREM) sleep and REM sleep (Mindell & Owens, 2010). REM sleep is linked with dreaming, while Non-REM

sleep is a deeper state of sleep (Schaefer, 1995). After six months of age, Non-REM sleep is further broken down into three stages, which will be discussed in detail below.

**NREM.** NREM sleep is defined as the period of relatively low brain activity during which the regular capacity of the brain is active, but body movements are preserved. In other words, the body is still able to move and not in a state of temporary paralysis, which happens in later stages of sleep. During NREM sleep respiratory and cardiovascular functions are regular. NREM sleep is broken down into three sleep stages (Stage 1, Stage 2, and Stage 3).

In stage 1 of NREM sleep, sleep occurs on a transitional basis, meaning that stage 1 serves as a bridge between being awake and being asleep (Schaefer, 1995). This initial stage of sleep lasts from 30 seconds to 5 minutes. During this stage hallucinations may occur as one is falling asleep or upon waking. Momentary involuntary muscle contractions, or hypnic jerks, can also occur. Both of these are considered to be normal phenomena in most cases. Stage 1 has the lowest arousal threshold, in other words it is the easiest to be awakened from.

Stage 2 of NREM sleep is typically called the initiation of “true” sleep. This stage is characterized by the disappearance of rolling eye movements from stage 1. Stage 2 is considered to be the first real stage of sleep. Any thoughts in this stage are short, mundane, and fragmented (Meerdink, 2005). The initial stage 2 period lasts from 5 to 25 minutes (Mindell & Owens, 2010).

Stage 3 of NREM sleep is also known as “deep” sleep, or delta sleep. Dominating this stage are delta waves, known by high-voltage, low-frequency activity. When the body is at rest the heart rate slows and intestinal and gland activity increases. Also, breathing is slowest and



most regular during this stage. It is during this stage of sleep that it is most difficult to awaken from. This third stage of sleep is about 30 to 45 minutes and leads into REM sleep.

**REM.** REM sleep is identified by desynchronized cortical activity and the highest brain metabolic rate, meaning the brain is most active in this stage. Dreaming, absence of skeletal muscle tone (except for diaphragm, middle ear, and erectile muscles), lack of normal thermoregulation, and episodic bursts of phasic eye movements also occur during REM sleep (Mindell & Owens, 2010). The first REM sleep period occurs about 70 to 100 minutes after the onset of sleep and lasts about 5 minutes (Mindell & Owens, 2010). On average, there are at least five complete cycles of sleep throughout the night (Schaefer, 1995). A complete sleep cycle includes three stages of NREM sleep, from light to deep sleep, then backwards from deep to light sleep. Sleep progresses from one stage to the next, beginning with stage 1 into stage 2, then stage 3. Following this progression into deeper sleep, sleep ascends through the stages, starting with stage 3, then to stage 2, and finally back to stage 1 of NREM sleep. After this NREM sleep course, the first REM or active sleep state occurs (Schaefer, 1995). These cycles last about 90 to 110 minutes. Brief arousals commonly occur at the end of each sleep cycle (NREM and REM combined) usually followed by an immediate return to sleep (Mindell & Owens, 2010). It is important to understand what occurs during the stages of sleep and the way in which people cycle through the various stages of sleep because understanding sleep architecture is key to identifying various sleep problems and understanding when in the night they are likely to occur, like parasomnias.

### **Parasomnias**

Parasomnias are unwanted events that can occur during entry into sleep, during sleep, or during awakenings from sleep; however, parasomnias typically occur during NREM sleep.

Parasomnias that occur during NREM sleep, meaning that they occur during an incomplete arousal from sleep, include sleepwalking, sleep terrors, and confusional arousals (Kuhn & Floress, 2008). Parasomnias that usually occur during REM sleep include nightmares, hallucinations and sleep paralysis, and REM behavior disorder, which is a rare condition in childhood which is characterized by the absence of normal muscle paralysis during REM sleep and results in the child “acting out” their dream content (Mindell & Owens, 2010). Parasomnias such as sleepwalking, sleep terrors, and confusional arousals occur almost exclusively in the third stage of non-REM sleep, or during Slow-Wave Sleep (SWS). Because of this, parasomnias will usually occur within the first few hours of sleep (Mindell & Owens, 2010).

**NREM or partial arousal parasomnias.** Sleepwalking and night terrors are two common types of NREM or partial arousal parasomnias. About 15% to 40% of children sleepwalk on at least one occasion, with studies showing a prevalence rate of approximately 17% sleepwalking regularly and about 3% to 4% sleepwalking frequently. Sleepwalking episodes usually begin between ages 4 and 6 and occurrence peaks between ages 8 and 12 (Mindell & Owens, 2010). During a sleepwalking episode, the child seems dazed or confused, his or her eyes are usually open and they may mumble or give inappropriate answers to questions asked of them. Sometimes, sleepwalking children seem angry. When children sleepwalk, they are typically clumsy and may perform unnatural or strange actions such as urinating on the floor. Sleepwalking can occur every night or infrequently. It is a common and generally harmless sleep behavior, although there is an increased chance for injury from the surrounding environment. For instance, a child who sleepwalks may be more likely to fall down the stairs or leave the house if safety precautions are not in place. Sleep terrors, or night terrors, are another type of parasomnia that can affect children.

Sleep terrors are characterized by a sudden awakening from slow-wave sleep, along with autonomic and behavioral manifestations of intense fear. These dramatic events can be upsetting to parents or caregivers, yet the child is completely unaware of his or her behavior (Mindell & Owens, 2010). About 1% to 6% of children experience sleep terrors, usually during the preschool and elementary school years. Onset age for sleep terrors is between the ages of 4 and 12 years. The frequency of episodes is usually highest at the onset and tends to be higher with a younger age of onset. Most individuals outgrow sleep terrors by adolescence (Mindell & Owens, 2010).

Sleep terrors and nightmares are mistakenly considered to be the same disorder by lay persons. One clear distinction is that during nightmares, the child is alert, coherent, and interactive. For instance, a child having a nightmare can be easily woken and can recall that they had a nightmare the next morning. On the other hand, children who are experiencing a sleep terror are not easily woken or soothed during an episode. Furthermore, the next day they cannot recall that they had an episode the night before (Kuhn & Floress, 2008). Because sleep terrors occur during SWS, as sleepwalking does, risk factors and triggers for sleep terrors are similar to those which contribute to sleepwalking.

Partial arousal parasomnias are thought to be influenced by both biology and the environment. Studies show that 50% to 65% of identical twins both experience sleepwalking (Mindell & Owens, 2010). Further evidence for parasomnias having a genetic influence comes from studies examining parents who sleep walk. The likelihood of a child being diagnosed with sleepwalking is 22% if neither parent has the disorder, 45% if one parent has the disorder, and rises to 60% if both parents have the disorder. Environmental factors that can contribute to the likelihood of parasomnias include inadequate sleep and sleep disruption, because they often

result in an increase in Slow-Wave Sleep (SWS). In other words, children who are not obtaining sufficient sleep are more likely to experience parasomnias. Environmental factors that increase arousals during sleep, especially during the SWS, may also trigger parasomnias. For example, children with irregular sleep schedules or children with a change in sleep schedule are more likely to experience parasomnias. In addition, having a fever or illness, medications that increase SWS, caffeine, sleeping with a full bladder, sleeping in a different environment, or stress and anxiety are other environmental factors that increase the risk for parasomnias (Mindell & Owens, 2010).

**REM parasomnias.** Nightmares occur during REM sleep and are terrifying dreams that usually wake up a child or adolescent, leaving them in need of comfort before they can return to sleep (Mindell & Owens, 2010). Research suggests that nightmares are common among children. Approximately 75% of children report having at least one nightmare in their lifetime, and 10% to 50% of children experience nightmares that result in the need for parental comforting during the night. While experiencing the occasional nightmare is quite common, frequent nightmares are much less common. One study reported that for chronic nightmares, defined as a nightmare problem lasting longer than 3 months, 24% of children ages 2 to 5 and 41% of children age 6 to 10 reported a chronic nightmare problem (Mindell & Owens, 2010). Nightmare prevalence peaks between ages 6 and 10, with an increase in nightmares leading up to 6 years and a decrease in frequency after the age of 10 (Mindell & Barrett, 2002).

Stressful periods, especially traumatic events, are known to increase the frequency and intensity of nightmares. Stress can be created by obvious family disruptions, such as a death in the family or marital conflict, but it should not be overlooked that stress can result from normal

developmental transitions such as toilet training or starting school, which can cause nightmares (Kuhn & Floress, 2008).

### **Nightmares Literature Review**

Some professionals see nightmares as synonymous with bad dreams, but others see a difference between the two. According to Zadra & Donderi (2000), bad dreams are defined as unpleasant dreams that do not cause a child to wake from sleep. On the other hand, nightmares occur during REM sleep and awaken the child (Mindell & Owens, 2010).

**Age.** In recent years, studies researching nightmares in children have greatly varied in the age of the population studied. Instead of focusing on stages of childhood, such as early, middle, or late childhood, studies have included participants with a wide range of ages. For example, Mindell and Barrett (2002) examined nightmares and anxiety traits in children ages 5 to 11. Simard and Nielsen (2009) studied the effects of adapted imagery rehearsal therapy techniques on the nightmares of children ages 6 to 11. Coolidge et al. (2010) studied nightmares and anxiety traits in the largest age range of children, ages 4 to 17 years old.

**Parent vs. child reports.** Studies surveying both children and their parents have consistently reported a significant difference in reports of prevalence and distress. Mindell and Barrett (2002) reported that parents rated nightmare prevalence and distress as significantly lower than children's ratings. In their study, parents reported that 49% of their children were currently experiencing nightmares, with 62.1% reporting their child had one nightmare every six months, 17.2% reporting one nightmare per month, 17.2% reporting their child experienced 1 to 2 nightmares per week, and 3.4% reporting their child had at least 3 nightmares per week. Children, however, reported differently. In their study, 75% of children reported having ever

experienced a nightmare, with 38.5% indicating they experienced one nightmare per year, 28.2% experienced one per month, 25.6% experiencing 1 to 2 per week, and 7.8% experiencing 3 or more nightmares a week. Mindell and Barrett (2002) also measured nightmare distress in their study. Only one parent (3.6%) reported that their child perceived their nightmares as 'extremely distressing', 71.4% reported their child felt their nightmares were 'somewhat distressing', and 25% of parents reported their child found their nightmares 'not distressing at all'. Five children (11.6%), however, reported their nightmares as 'very scary', 53.5% reported their nightmares as 'somewhat scary', and 34.9% reported their nightmares as 'not scary at all'. Schredl, Frick-Oerkermann, Mitschke, Wiater, and Lehmkühl (2009) also reported differences in parental reports versus child reports. About 2.3% of parents indicated their child had nightmares often, while 26.9% reported 'sometimes'. The children, however, reported higher prevalence, with 3.5% stating that their nightmares occur often and 40% reporting 'sometimes'. These differences were found to be statistically significant.

**Anxiety.** While research on the subject of nightmares has not been conclusive, some studies have shown a positive correlation between nightmares and general anxiety. Mindell and Barrett (2002) studied the self-reports of elementary-aged children and the reports of their parents about nightmares. Results indicated that children who reported that they experienced three or more nightmares a week had significantly higher anxiety scores than children who reported only weekly nightmares or annual nightmares. Also, children who reported experiencing nightmares once a month had significantly higher anxiety scores than those who reported only annual nightmares. Furthermore, children in the study reported significant differences in anxiety levels and nightmares distress as well. Children who rated their nightmares as 'very scary' had significantly higher levels of anxiety than those who rated their nightmares as

‘a little scary’ or ‘not scary at all’. In their study of 1,318 children, adolescents, and child and adolescent twins, ages ranging from 4 to 17 years old, Coolidge et al. (2010) found that those who reported experiencing nightmares had a high comorbidity with Axis I scale disorders of Overanxious Disorder and Separation Anxiety Disorder. These studies shed light on a possible correlation between nightmares and anxiety. Are children who experience more anxiety likely to also have more nightmares? Better understanding the possible relationship between nightmare prevalence and anxiety could lead to treatments. For example, if there is a relationship between nightmare prevalence and anxiety maybe teaching children to engage in anxiety reduction procedures during the daytime may decrease nightmare frequency.

**Gender.** Before the age of 12, nightmares seem to occur equally between boys and girls. After the age of 12 though, prevalence rates based on gender seem to be mixed. Some studies report that girls have more nightmares than boys (Mindell & Owens, 2010). In a study done Schredl et al. (2009) with 8 to 11 year olds, nightmares were reported slightly more often in girls than in boys. Parent’s ratings of nightmares in girls were 2.7% for often, 29% for sometimes, and 68.3% for not present, while parent’s ratings for boys were 2.3% for often, 25.2% for sometimes, and 72.5% for not present. The children’s ratings also differed in gender, with girls reporting 4% having nightmares often, 41.9% for sometimes, and 54.1% for no nightmares. The boys reported having nightmares often at 3.1%, sometimes at 38.7%, and not at all at 58.3%. However, other studies have found that boys report a higher prevalence of nightmares. In a study done by Coolidge et. al. with a sample of children ages 4 to 17 years old, 7.7% of boys participating in the study and 5.1% of girls reported having terrible nightmares, which bordered statistical significance (Coolidge, et. al., 2010).

## **Interventions**

One form of intervention for nightmare distress that is showing great promise is Imagery Rehearsal Therapy (IRT). IRT consists of three steps, all of which are performed while awake. The first step is to select a nightmare, then the participant changes the nightmare in any way they wish to make it less frightening to them, and finally the participant rehearses the changed version of the nightmare for a certain amount of time per day (Krakow, Sandoval, Schrader, Keuhne, McBride, Yau, Tandberg, 2001) . While IRT has been shown to have great success with adults and adolescents (Germain & Nielsen, 2003; Krakow et al., 2001), little research has been done on its effectiveness with children. Simard and Nielsen (2009), examined the effectiveness of IRT with a child-mother dyad sample with children ranging in age from 6 to 11. Simard and Nielsen (2009) reported a significant decrease of distress felt by child over the duration of treatment but not in the frequency of nightmares experienced. In other words, while children were still having nightmares, they were not as frightened or upset by the nightmares. IRT works with nightmare distress similarly to the way exposure therapy works with anxiety. In exposure therapy, persons suffering from anxiety about a particular place, event, etc. are slowly exposed to that fear typically using a hierarchy of least frightening exposures leading up to most frightening exposures. For example, if one was afraid of snakes, they might begin first by talking about snakes, and then perhaps move to talking about touching or holding a snake. Next, a snake might be brought into the session for the client to see. After that, the client could advance to touching the cage of the snake, then eventually touching or holding the snake. All of this is done with the consent of the client, and the client is slowly and systematically desensitized to their fear of snakes (Abramowitz, Deacon, Whiteside, 2011).



### **Summary of the Current Literature**

While some studies have shown a high correlation between nightmares and trait anxiety, there has not been a wide range of research throughout various child populations. Most studies involve urban or suburban populations (Coolidge et al., 2010; Mindell & Barrett, 2002), but not children from rural backgrounds. Studies have also included participants with a range of ages, instead of focusing on early childhood, middle childhood, or late childhood populations. For instance, Mindell and Barrett (2002) examined nightmares in children ages 5 to 11, Simard and Nielsen (2009) studied children ages 6 to 11, and Coolidge et al. (2010) had the largest age range, 4 to 17 years of age. Conflicting results have also been reported regarding nightmare prevalence rates and gender. Schredl et al. (2009) reported that nightmares are more prevalent among girls whereas Coolidge et al. (2010) found nightmares were more often reported among boys. Interestingly, studies have consistently shown that parents' reports of nightmare prevalence and distress are significantly lower than children's reports (Mindell & Barrett, 2002; Schredl et al., 2009), suggesting that parents may not be aware of how frequent or distressing nightmares are for their children.

### **Research Questions**

The current study aims to contribute to the literature on nightmares by measuring the frequency and distress of nightmares and anxiety traits among kindergarten-aged children in Central Illinois. The following research questions will be answered: (1) Do children report experiencing nightmares at a higher frequency and intensity compared to parents' report of their child's nightmares? Based on previous studies (Mindell & Barrett, 2002; Schredl et al., 2009), it is hypothesized that children will report experiencing nightmares at a higher rate and intensity

compared to their parents. (2) Does higher nightmare distress (self-reported or parent reported) correlate with higher trait anxiety? Based on studies conducted by Coolidge et al. (2010) and Mindell and Barrett (2002), it is hypothesized that nightmare distress and trait anxiety will be positively correlated. (3) Is there a difference in prevalence or intensity of nightmares between genders? Based on Schredl et al.'s (2009) study, it is hypothesized that girls will report higher nightmare frequency and distress than boys.

## **Methods**

### **Participants and Setting**

Permission from a Central Illinois Elementary School was obtained to send home survey packets with approximately 184 kindergarten students. Survey packets were therefore completed within the home setting and returned to the researcher in a postage-paid envelope. The sample consisted of 37 parent-child dyads. For the 37 parents (see table 1; 33 female, 4 male), 32 (86.5%) were mothers, 4 (10.8%) were fathers and there was 1 (2.7%) legal guardian. Most parents were married (31 married, 83.8%; 3 single, 8.1%; 3 divorced/separated, 8.1%) and most parents were Caucasian/White (33 Caucasian/white, 89.2%; 2 other, 5.4%; 1 African American/Black, 2.7%; 1 Asian, 2.7%). Parent reported to have a wide-range of educational backgrounds 13 (35.1%) parents reported to have a four year degree, 10 (27.2%) parents reported to have some college or a 2 year degree, 6 (16.2%) parents reported having a Master's degree, 3 (8.1%) parents reported having a Doctoral degree, 3 (8.1%) parents reported having a high school diploma or GED certificate, and 2 (5.4%) parents reported that they had no educational background.

Child demographic information was also collected. Of the 37 child participants (see table 2; 22 female, 15 male), ages ranged from 4-6 years old with a mean age of 5.4 years. Children were primarily enrolled in kindergarten (35 kindergarten, 94.6%; 2 preschool, 5.4%). Children were predominantly Caucasian/white (32 Caucasian/White, 86.5%; 3 other, 8.1%; 1 African American/Black, 2.7%; 1 Asian, 2.7%).

### **Materials/ Instruments**

The survey packets that were distributed to kindergarten students and then brought home to parents, included the following items: parent informed consent forms, a child and parent demographic questionnaire, child and parent nightmare questionnaires, a parent-reported Spence Preschool Anxiety Scale (Spence, Rapee, McDonald, Ingram, 2001), and a preaddressed, prepaid envelope for returning surveys. Each of these items will be discussed in more detail below.

**Child and parent demographics.** Parents were asked to complete the demographic questionnaire which asked demographic questions related to the parent's child (e.g., age, sex, and racial background) and themselves (e.g., relationship to child, sex, marital status, racial background, and highest educational degree obtained; see appendix A).

**Child and parent nightmare questionnaires.** The child and parent nightmare questionnaires were two separate yet similar surveys used to measure nightmare frequency and intensity (see appendix B). Both child and parent questionnaires consisted of three similar questions to measure nightmare occurrence, prevalence, and intensity. For example, the parent questions asked the following: Does your child have nightmares, how frequent are your child's nightmares, and how distressing are the nightmares to your child. Parents answered the frequency question by indicating a value on a 5 point scale (i.e., 1 meaning Once a year, 2

meaning Once a month, 3 meaning Once a week, 4 meaning Three times a week, and 5 meaning Once a night). Parents answered the distress question by indicating whether the nightmares were extremely distressing, somewhat distressing, or not distressing at all to their child. The child questionnaire included an additional open-ended question (i.e., What is a scary dream?) to explore whether or not children's understanding of a nightmare was consistent with the definition of a nightmare in the sleep literature. The purpose of this open-ended question was to explore whether children's understanding or articulation of a nightmare was consistent with the published definition. This question is important, as limited information is available regarding self-reported nightmares in a population this young.

There were slight differences between the child and parent nightmare questionnaires in terms of language and the formatting of the questions. The questions on the child questionnaire used developmentally appropriate vocabulary and visual aids to assist children in answering the questions. For example, parent language was changed from "nightmares" to "scary dream" and the word "distressing" was changed from the parent question to "scary" on the child questionnaire. In addition, visual aids (i.e., dots) were added to the child questionnaire to symbolize terms related to quantities (i.e., Ranging from Once a Year with one dot to Once a night with 20 dots; see appendix B).

To complete the child questionnaires, parents were instructed to help their child read and mark their answers, but to record their child's answers verbatim. This is consistent with the methodology of previous studies (Mindell & Barrett, 2002) and developmentally appropriate considering the age of the children in the sample. Parents filled out the parent version of the survey, which asked them to rate the frequency/intensity of their child's nightmare experience.

**Spence Preschool Anxiety Scale.** The Spence Preschool Anxiety Scale (Spence, Rapee, McDonald & Ingram, 2001) is a parent-report measure of young children's (ages 3-5) anxiety symptoms. The scale consists of 28 scored anxiety items that ask parents to report on the frequency of which an item is true for their child. Each item is rated on a scale of 0 to 4, with 0 representing "Not true at all" and 4 representing "Very often true". The scale provides an overall measure of anxiety score and six additional subscale scores (generalized anxiety, social anxiety, obsessive compulsive disorder, physical injury fears and separation anxiety; Spence et al., 2001; see appendix C). The validity of the Spence Anxiety Preschool Scale appears to be sound. Spence et al. (2001) reported that the construct validity of the Spence Anxiety Preschool Scale was high. Total scores on the Spence and total scores on the Internalizing Scale of the Child Behavior Checklist (CBCL, Achenbach, 1992) were reported to correlate at 0.68. The five-factor model of the Spence Preschool Anxiety Scale proved to be effective, with the five factors explaining 51% of the variance in anxiety scores (Spence et. al., 2001).

## **Procedures**

Prior to data collection, IRB approval was sought and authorized. Permission was also obtained from a Central Illinois Elementary School to send home survey packets with 184 kindergarten students attending the school. Survey packets were sent home with all kindergarten-aged students. Parents who wished to participate were instructed to complete the informed consent, demographics questionnaire, parent and child nightmare questionnaire, and the Spence Preschool Anxiety Scale. Parents were asked to complete the demographics questionnaire, their portion of the parent nightmare questionnaire, and the Spence Preschool Anxiety Scale independently. However, parents were instructed to read verbatim the questions on the child nightmare questionnaire to their child. This is consistent with the methodology of previous

studies (Mindell & Barrett, 2002) and necessary considering children in kindergarten are not expected to read at the level needed to complete the survey. Completion of the entire survey packet was expected to take approximately 5-10 minutes. Once parents completed the packets they were directed to return the materials in the preaddressed, prepaid envelope provided. The first 70 participants to return their packets were eligible for a gift card to a local restaurant as monetary incentive for their participation. As packets were received, names of participants were recorded in a separate Excel spreadsheet, disconnecting them from their identification number. Names were used to distribute gift cards to the student's kindergarten teachers who then sent the gift cards home with students whose parents had participated in the study.

Approximately one month after the initial survey packets were distributed at the school, a flyer was sent home with kindergarten-aged children to remind them and their parents to participate in the study. Parents who wished to participate but misplaced the packets were instructed to e-mail the researcher for a digital copy of survey materials and return them via e-mail or to the front office of the school where the researcher would later pick them up. This was done in an attempt to increase the sample of participants. Approximately two months after the initial survey packets were distributed at the school, a second flyer was sent home reminding students and their parents to participate in the study. After data collection was completed, a flyer with information about nightmares and suggestions for dealing with nightmares (see appendix D) was sent home with all kindergarten-aged students, regardless of participation in the study. The purpose of this was to provide information to all kindergarten students and their parents about nightmares and strategies to decrease frequent or distressing nightmares.

## **Data Analyses**

Chi-square tests of independence were performed on the parent ratings and child ratings of frequency versus distress, parent reports of frequency versus child reports of frequency, parent reports of distress versus child reports of distress, male versus female child frequency reports and male versus female child distress reports. T-test for independent samples were performed on reports of nightmare occurrence (parent and child) versus Spence Preschool Anxiety Scores, reports of nightmare frequency (parent and child) versus Spence Preschool Anxiety Scores, reports of nightmare distress (parent and child) versus Spence Preschool Anxiety Scores, and child gender versus Spence Preschool Anxiety Scores.

## **Results**

### **Parent Nightmare Reports**

Results indicated that 26 (70.3%) of the 37 parents reported that their child had nightmares, while 11 (29.7%) parents reported that their child did not have nightmares. Of the 26 parents who reported that their child experienced nightmares, 5 (20%) parents reported that their child had nightmares once a year, 12 (48%) parents reported nightmares once a month, 6 (24%) parents reported nightmares once a week, 2 (8%) parents reported nightmares three times a week, and no parents indicated that their child had nightmares on a nightly basis. Of the 26 parents who reported that their child experienced nightmares, 3 (11.5%) parents reported that they believe their child's nightmare experience was not distressing at all, 18 (69.2%) parents reported that they believed their child's nightmare experience was somewhat distressing, and 5 (19.2%) parents believed their child's nightmare experience was extremely distressing.

In order to perform the proper chi-square test of independence without violating the expected count, the categories (for both frequency and distress) were narrowed down from a 3x5 analysis to a 2x2. This was accomplished for the frequencies category by combining the once a year category with the once a month category to make a new “not often” category, and the once a week, three times a week, and once a night categories to make an “often” category. Using the new frequency categories, 17 (45.9%) parents reported that their children had nightmares “not often” and 8 (21.6%) parents reported that their children had nightmares “often”.

New categories were also made for nightmare distress by consolidating the categories into two new categories. The previous category “not distressing at all” remained a category, but the “somewhat distressing” and “very distressing” categories were combined to make a new “distressing” category. Based on the new nightmare distress categories, 3 (8.1%) parents reported that their child’s nightmares do not distress them at all and 23 (62.2%) parents reported that their child’s nightmares are distressing. This formed the 2x2 analysis necessary to run the chi-square test for independence without violating the expected count. There was no relationship found between the parent reported frequency and distress of nightmares ( $\chi^2$ -test (1) = 1.60,  $p > .05$ ).

### **Child Nightmare Reports**

From the child nightmare questionnaire, 31 (83.8%) reported having nightmares, while 6 (16.2%) reported never having a nightmare. Of the 31 children who reported nightmare frequency, 3 (9.7%) reported having nightmares once a year, 7 (22.6%) reported having nightmares once a month, 12 (38.7%) reported having nightmares once a week, 2 (6.5%) reported having nightmares three times a week, and 7 (22.6%) reported having nightmares on a



nightly basis. Of the 30 children who reported nightmare distress, 3 (10%) found the nightmares to not be scary at all, 11 (36.7%) found the nightmares to be a little scary, and 16 (53.3%) found their nightmares to be very scary. Similar to the parent's data, the categories in child reports of frequency and distress were combined to make a 2x2 analysis. The new frequencies for child reported frequency were 10 (27%) children reporting they do not have nightmares often and 21 (56.8%) reporting that they do have nightmares often. The new frequencies for child reported distress were 3 (8.1%) reporting their nightmares were not scary at all, while 27 (73%) children reported that their nightmares were scary. There was no relationship found between the child reported frequency and distress of nightmares ( $\chi^2$ -test (1) = .000,  $p > .05$ ).

### **Parent Nightmare Reports versus Child Reports**

When comparing the parent frequency reports to the child frequency reports, there was a significant relationship found ( $\chi^2$ -test (1) = 4.58,  $p = .03$ ). Children reported significantly more nightmares than parents reported. However, no such relationship was found when comparing the parent distress reports to the child distress reports ( $\chi^2$ -test (1) = .3,  $p > .05$ ).

### **Nightmares and Anxiety**

When analyzing the difference across Spence Anxiety scores, we first looked to see if there was a difference in anxiety scores from those who reported experiencing nightmares compared to those who did not report experiencing nightmares. When looking at the parents reports for nightmare occurrence, there was no significant difference found in the anxiety scores of those who reported nightmares (mean= 33, SD= 17.91) compared to those who did not report nightmares (mean= 26.3, SD= 15.11,  $t(35) = 1.17$ ,  $p > .05$ ). The same was true for the child reports of nightmare occurrence. The anxiety scores of the children who reported nightmares

(mean 30.03, SD= 17.9) was not significantly different than those who did not report nightmares (mean= 36, SD= 13.16,  $t(35) = -.95, p > .05$ ).

**Nightmare frequency.** Next, we looked at the difference in anxiety scores across the frequency of nightmares reported. Categories remained combined into the two more general categories of “not often” and “often” for frequencies. When looking at the parent reports, those who reported frequent nightmares (mean= 47.75, SD= 18.64) had significantly higher Spence Anxiety Scores than those who reported infrequent nightmares (mean= 26.71, SD= 13.81,  $t(23) = 2.85, p = .008$ , one-tailed). This difference was strong, with an effect size measure of  $r = .55$ . When looking at the child reports, the difference between anxiety scores was approaching significance. Those who reported frequent nightmares (mean= 33.65, SD= 19.97) had slightly higher anxiety scores than those who reported infrequent nightmares (mean= 22.5, SD= 9.38,  $t(29) = 1.67, p = .054$ , one-tailed). This difference, while not significant, came rather close and is worth mentioning.

**Nightmare distress.** Finally, we looked at reported nightmare distress levels and Spence Anxiety Scores. Similar to other comparisons, because of the small sample size, the distress groups were narrowed down into two categories; “not scary at all” and “scary”. When looking at the parent reports, there was no significant difference between the anxiety scores of those who reported their child’s nightmares were not distressing at all (mean= 29.67, SD= 13.87) and those who reported their child’s nightmares were distressing (mean= 33.43, SD= 18.58,  $t(24) = .424, p > .05$ ). However, when looking at child reports, there was a significant difference. Children who reported that their nightmares were scary (mean= 29.93, SD= 17.25) had significantly higher anxiety scores than those who reported that their nightmares were not scary at all (mean= 18.67,

SD= 7.57,  $t(28) = 2.05$ ,  $p = .049$ , one-tailed). This correlation had a small to medium effect size of  $r = .20$ , showing it was a moderately strong relationship.

### **Gender Differences**

Differences in nightmare frequency or intensity were also examined across genders. When looking at child reported nightmare frequency, there was no difference between boys and girls ( $\chi^2$ -test (1) = .034,  $p > .05$ ). When looking at child reported nightmare distress, there was no difference found between boys and girls ( $\chi^2$ -test (1) = 1.67,  $p > .05$ ). We also looked at the differences in Spence Anxiety scores across genders. There was no significant difference found between girls (mean= 32.95, SD= 18.02) and boys (mean= 28.13, SD= 16.08,  $t(35) = .85$ ,  $p > .05$ ).

### **Discussion**

The purpose of this study was to contribute to the limited literature on nightmare experience and its relationship to anxiety traits in young children. With nightmares being a common concern in young children, the small sample of research on the subject is astounding. The current study aimed to add to the current research and provide further support for the possible relationship between nightmares and anxiety traits in young children. Studies on this topic have looked at a wide range of ages. The current study sought to provide research on a younger population specifically, which is why kindergarten students were targeted. Mixed findings have been reported in term of gender differences and nightmare experience. Therefore, the current study also set out to investigate the possible relationship between gender and nightmare experience.

### **Nightmare Rates**

The current study found a higher nightmare occurrence rate compared to previous research. In the current study, 70% of parents and 84% of children endorsed the occurrence of nightmares, whereas Coolidge et al., (2010) found that only 6.4% of parents answered “strongly true” or “more true than false” to the question “My child has terrible nightmares”. Perhaps the difference in reported occurrence is due to the intensity emphasis (i.e., “terrible” nightmares instead of nightmares in general). Mindell & Barrett (2002) found that 48% of parents endorsed the occurrence of nightmares in their children, while 75% of children endorsed having experienced at least one nightmare. Although still lower, these rates are more similar to the rates found in the current study.

### **Parent versus Child Nightmare Reports**

In regards to the first research question, Do children report experiencing nightmares at a higher frequency or intensity compared to parent reports of child nightmares?, the current study found a significant difference between parent reports of nightmare frequency and child reports of nightmare frequency. These results are consistent with previous studies (Mindell & Barrett, 2002; Schredl et al., 2009). These results could be explained by parents underestimating their child’s nightmare experiences, or by children overestimating their nightmare occurrence. Schredl et al. (2009) argued that parents may significantly underestimate nightmare occurrence in their children, because parents may be less aware of their children’s nightmare frequency, and this may account for the difference in reporting. This explanation makes sense considering the Schredl et al. (2009) study included children aged 8-11 years; however, the current study’s sample of children ranged in age from 4-6 years. It seems logical to assume that with older

children, parents may be less aware of nightmare frequency because older children (especially 10-11 years of age) may report nightmares to their parents or to seek comfort or assistance in returning back to sleep after experiencing a nightmare less frequently. Older children may also wait to report nightmares to their parents the next day causing parents to forget or underestimate their children's nightmares (Schredl et al., 2009) This is not likely true for young children (i.e., 4-6 years of age) where it is more likely they would wake up their parents during the night to report a nightmare. Based on this logic, one might hypothesize that parents and children would have a more similar report of nightmare frequency; however this was not that case. Therefore, the difference in parent and child nightmare reporting may be related to young children's overestimate of nightmare frequency. Perhaps children in this population overestimate the frequency of nightmares because of an experience bias. The children find nightmares distressing; therefore they are likely to over-endorse the frequency of nightmares they experience. The ease of remembering these nightmares could cause the child to mistake them for being more frequent than they truly are. Based on children's answers to the open-ended "What is a scary dream?" question, a majority of children report frightening events occurring in their dreams. Many children report having scary dreams about ghosts, vampires, zombies and other monsters. These distressing dreams may be causing even infrequent nightmare to be remembered easier, producing a more frequent estimate in children's minds.

In regards to the second part of the first research question, Do children report experiencing nightmares at a higher intensity compared to parent reports of child nightmares? The current study found no significant difference between parent reports and child reports. This is different from previous studies (where the children in the sample were older; Mindell & Barrett, 2002), but this difference may also be explained by the young age of the sample in the

current study. It is more likely for a younger child to seek parental assistance when awoken and distressed by a nightmare in the night (e.g., they wake their mother or father or legal guardian for comfort before returning back to sleep) Therefore, it is likely that child and parent reports are more similar because the parent has an opportunity to see just how much (or how little) distress the child exhibits when awoken by a nightmare.

### **Nightmares and Anxiety**

The second research question asked, Does higher nightmare distress (self-reported or parent-reported) correlate with higher trait anxiety (parent-reported)? Nightmare occurrence was first to be explored and results indicated that when comparing those who reported experiencing nightmares to those who did not, both parent and child reports were not significant. In other words, children's anxiety scores were not significantly different based on the occurrence or nonoccurrence of nightmares (as reported by children and also parents). One explanation for these findings may be due to outlier anxiety scores. There were a few parents who reported high anxiety scores without reporting the occurrence of nightmares. These parents also did not report that their children had experienced a trauma (which might have explained the high anxiety scores). Perhaps the simplest explanation is that these children were moderately anxious without the occurrence of nightmares. They could be exceptions to the proposed relationship of nightmares and anxiety, or perhaps evidence that the two do not always co-exist. Further research should be done on the co-occurrence of nightmares and anxiety traits.

The second part of the second research question asked, Does higher nightmare frequency (self-reported or parent-reported) correlate with higher trait anxiety (parent-reported)? Next, parent and child reports of nightmare frequency were compared with Spence Anxiety scores.

Results indicated that parents who reported frequent nightmares also reported higher anxiety scores, which is contrary to previous research findings (Mindell & Barrett, 2002). In previous research, there was not a significant relationship between parent reported anxiety scores and nightmare frequency, meaning parents who reported more frequent nightmares for their children did not report higher anxiety scores. However, in the current study, parents who reported more frequent nightmares for their child also reported higher anxiety scores than parents who reported less frequent nightmares. This difference could again be explained by the young population in the current study. While previous studies sampled a larger, older age range of children (i.e., 5 to 11 years of age; Mindell & Barrett, 2002), this study focused on the kindergarten-aged population. Older children, especially approaching adolescents, may be less likely to report the occurrence of nightmares to their parents. Therefore, Mindell & Barrett (2002) may have found no relationship between frequent nightmares and higher anxiety scores because older children are likely to know their own nightmare experience better than their parents. Because parents are likely to be more involved in soothing their young children after they experience a nightmare, these parents may be more knowledgeable of their child's nightmare frequency. This difference in age range may explain the significant relationship between parent reports of nightmare frequency and trait anxiety found in the current study, but not previous research.

When looking at the child reports of nightmare frequency, there was not a significant relationship between nightmare frequency and anxiety, but it was approaching significance. Perhaps with a larger sample size, this would have reached significance. It is still plausible to believe that in this age range of children, parents are better at reporting nightmare frequency. Therefore, the parent reports of frequency would typically carry the relationship. Further

research should be done to continue the investigation on the relationship between reports of nightmare frequency and trait anxiety scores.

Finally, in regards to the third part of the second research question, Does higher nightmare distress (self-reported or parent-reported) correlate with higher trait anxiety (parent-reported)? Parent and child reports of nightmare distress were compared with Spence Anxiety scores. When looking at parent reports, there was no significant difference found in anxiety scores across reports of distress. This finding differs from previous research (Schredl et al., 2009) but is similar to other research (Mindell & Barrett, 2002). In Mindell and Barrett's research, there was no significant relationship found between parent reports of distress and trait anxiety scores, but there was a trend suggested by the data. While there was no such trend found in the current study, perhaps this can be explained by the small sample size. The total number of participants came to 37, but that was narrowed down further with regards to reports of frequency and distress because those who did not report the occurrence of nightmares did not report frequency or distress. There was a total of 26 parents who reported distress, a rather small sample. Perhaps with a larger sample, the trend would have been evident.

When looking at child reports of distress, however, there was a significant difference found among the parent-reported Spence Anxiety scores. This is similar to previous research (Mindell & Barrett, 2002; Schredl et al., 2009) and the trend in research suggests a relationship between child ratings of nightmare distress and trait anxiety scores. The difficulty comes in determining directionality. As a majority of the research done to date has been correlational, the problem of directionality occurs. Do children who are more anxious have more nightmares, or do children who have more nightmares become more anxious? If there is an ethical approach to this, more research should be done to determine causality.



### **Nightmares and Gender**

With regards to the third research question, Is there a difference in the prevalence or intensity of nightmares across genders?, the current study did not find any differences across genders in regards to nightmare frequency, nightmare distress, or anxiety scores. In previous research, Coolidge et al. (2010), found that boys reported more nightmares than girls, while Schredl et al. (2009) found that girls reported more nightmares than boys. In regards to anxiety, Bender, Reinholdt-Dunne, Esbjørn, and Pons (2012) found in their study of children 9-16 years of age that girls reported more anxiety than boys, while Meschian (2014), in their study of children, adolescents, and adults, found no differences in anxiety based on gender. Similarly, the current study found no differences, which may be explained by the current study's small sample size. With only 22 girls and 15 boys, perhaps there was not enough variability in this limited number of children to show gender differences. Previous studies have had much larger samples (i.e., 1,318 children, Coolidge et al., 2010) than the current study. Perhaps this difference in sample size could account for the lack of significant findings in the current study with regards to gender differences. Research in this area is still uncertain, though, and future researchers should examine the differences across genders with a larger sample size.

### **Limitations**

As previously mentioned, the current study was limited by a small sample size. An additional limitation could be the homogeneity of the sample, being that the sample was primarily one race and all from a rural population. While this could provide information on the specific rural population, it limits the external validity of the current study. Because the sample in the current study was very homogenous, the sample is not necessarily representative of the

U.S. population. While the findings in the current study are appropriate for the rural sample, caution should be used when interpreting these results to larger or more diverse populations.

One of the strengths of the current study was the wide variety of parent educational backgrounds. Therefore these results can be generalized more confidently across families with parents of varying educational backgrounds. This is an important factor in showing that parents of all educational levels may have children who report nightmare occurrence and distress, therefore the issue is not reserved to families with a certain educational background.

A final limitation to the current study may be the parent bias in completing the rating scales for themselves and their children. While the parents were instructed to record their children's answers verbatim, surveys were completed privately in the homes of the participants without any research supervision. The lack of researcher supervision limits the control in the current study. Another limitation related to the completion of the rating scales is children's self-reporting. It is possible that young children (i.e., 4-6 years of age) may not be able to accurately report their nightmare experience or may not fully understand the questions being asked of them. However, based on reading children's responses to the question "What is a scary dream", it would appear that the majority of the children sampled had an accurate account of nightmares and may be better reporters than we give them credit for. Nevertheless, research with this population of children is necessary to further understand the nightmare experience of young children. Future research should exercise more control when gathering data, perhaps by observing the participants as they complete the surveys.

## References

- Abramowitz, J. S., Deacon, B. J., & Whiteside, S. P. H. (2011). *Exposure therapy for anxiety*. (pp. 11-13). New York: The Guilford Press.
- Bender, P. K., Reinholdt-Dunne, M. L., Esbjørn, B. H., & Pons, F. F. (2012). Emotion dysregulation and anxiety in children and adolescents: Gender differences. *Personality & Individual Differences, 53*(3), 284-288.
- Coolidge, F. L., Segal, D. L., Coolidge, C. M., Spinath, F. M., & Gottschling, J. (2010). Do nightmares and generalized anxiety disorder in childhood and adolescence have a common genetic origin?. *Behav Genet, (40)*, 349-356.
- Krakov, B., Sandoval, D., Schrader, R., Keuhne, B., McBride, L., Yau, C. L., & Tandberg, D. (2001). Treatment of chronic nightmares in adjudicated adolescent girls in a residential facility. *Journal of Adolescent Health, (29)*, 94-100.
- Kuhn, B. R., & Floress, M. T. (2008). Nonpharmacological interventions for sleep disorders in children. In A. Ivanenko (Ed.), *Sleep and Psychiatric Disorders in Children and Adolescents* (pp. 261-278). Chicago: Informa Healthcare.
- Meerdink, J. (2005). Sleep. In N. Salkind (Ed.), *Encyclopedia of human development*. (pp. 1181-1183). Thousand Oaks, CA: SAGE Publications, Inc. doi:  
<http://dx.doi.org/10.4135/9781412952484.n568>
- Meschian, Y. (2014) Anxiety sensitivity among anxious children and adolescents: Disorder-specific sensitivities, gender differences and relation to parental anxiety sensitivity. *Dissertation Abstracts International. 74*.

Mindell, J. A., & Barrett, K. M. (2002). Nightmares and anxiety in elementary-aged children: is there a relationship?. *Child: Care, Health & Development*, 28(4), 317-322.

Mindell, J. A., & Owens, J. A. (2010). *A clinical guide to pediatric sleep: Diagnosis and management of sleep problems*. Philadelphia: Lippincott Williams & Wilkins.

Schaefer, C. E. (1995). *Clinical handbook of sleep disorders in children*. Northvale: Jason Aronson Inc.

Schredl, M., Fricke-Oerkermann, L., Mitschke, A., Wiater, A., & Lehmkuhl, G. (2009). Factors affecting nightmares in children: parents' vs. children's ratings. *European Child & Adolescent Psychiatry*, (18), 20-25.

Simard, V., & Nielsen, T. (2009). Adaptation of imagery rehearsal therapy for nightmares in children: A brief report. *Psychotherapy Theory, Research, Practice, Training*, 46(4), 492-497.

Spence, S.H. (1998). A measure of anxiety symptoms among children. *Behavior Research and Therapy*, 36, 545–566.

Spence, S.H. (1999). *Spence Children's Anxiety Scale (parent version)*. Brisbane: University of Queensland.

Zadra, A., & Donderi, D.C. (2000). Nightmares and bad dreams: Their prevalence and relationship to well-being. *Journal of Abnormal Psychology*, 109, 273-281.

**Table 1: Parent Demographic Information**

Relationship to Child N (%)		Racial Background N (%)		Marital Status N (%)		Education N (%)	
Mother	32(86.5)	Asian	1(2.7)	Single	3(8.1)	None	2(5.4)
Father	4(10.8)	Black/AA	1(2.7)	Married	31(83.8)	HS/GED	3(8.1)
LegalGuard.	1(2.7)	White/Cauc.	33(89.2)	Divor./Sep.	3(8.1)	Some or 2yr	10(27.2)
		Other	2(5.4)			4 yr	13(35.1)
						Master's	6(16.2)
						Doctoral	3(8.1)

**Table 2: Child Demographic Information**

Age N (%)		Gender N (%)	Grade N (%)		Racial Background N (%)		
4	2 (5.4)	Female	22(59.5)	PreSch.	2 (5.4)	Asian	1(2.7)
5	17(45.9)	Male	15(40.5)	Kinder.	35(94.6)	Black/AA	1(2.7)
5.5	1 (2.7)					White/ Cauc.	32(86.5)
6	17(45.9)					Other	3 (8.1)

**Appendix A:**

**Parent Demographic Questionnaire**

**Parent ID:** \_\_\_\_\_ **Child ID:** \_\_\_\_\_

**Relationship to child** (e.g., mother, legal guardian, etc.): \_\_\_\_\_

**Gender:** M or F **Marital Status:** Single Married Divorced/Separated Widow/Widower

**Racial Background:**

- American Indian/Alaska Native
- Asian
- Black or African American
- Native Hawaiian/Other Pacific Islander
- Caucasian or White
- Other: \_\_\_\_\_

**Highest Educational Degree Obtained:**

- None
- High School/GED
- Some college
- Two year college degree
- Four year college degree
- Master's degree
- Doctoral degree

**Child Demographic Questionnaire**

**Child ID:** \_\_\_\_\_ **Age:** \_\_\_\_\_ **Grade:** \_\_\_\_\_ **Sex:** M or F

**Racial Background:**

- American Indian/Alaska Native
- Asian
- Black or African American
- Native Hawaiian/Other Pacific Islander
- Caucasian or White
- Other: \_\_\_\_\_

**Appendix B:****Parent Nightmare Questionnaire**

Parent ID: \_\_\_\_\_

**Instructions:** *Parents, please read and answer these questions related to your child.*

**Note:** A nightmare is defined as a frightening dream that awakens the child. A night terror is defined as a sudden arousal from sleep where the child expresses fear, but is not fully conscious of what they are doing. Typically, children will remember having a nightmare the next day, whereas night terrors will not be remembered.

1. Does your child have nightmares? YES or NO
2. How frequent are your child's nightmares? (Please circle your response)

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Once a Year (Very little)	Once a month (A little)	Once a week (A little more)	Three times a week (A lot)	Once a night (All the time)

3. How distressing are the nightmares to your child?

- a. Extremely Distressing
- b. Somewhat Distressing
- c. Not Distressing At All

**Child Nightmare Questionnaire**

Child ID: \_\_\_\_\_

**Instructions:** *Parents please read these questions TO YOUR CHILD and record their answers exactly. Use the dots in question 2 to explain the quantities to your child: one dot on the left meaning not a lot of nightmares, and many dots on the right meaning a lot of nightmares.*

1. What is a scary dream? \_\_\_\_\_  
\_\_\_\_\_

2. Do you have scary dreams? YES or NO
3. How many scary dreams do you have? (Please circle your child's response)

●	● ● ●	● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ●	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Once a Year (Very little)	Once a month (A little)	Once a week (A little more)	Three times a week (A lot)	Once a night (All the time)

4. How scary are the scary dreams?

- a. Very Scary
- b. A Little Scary
- c. Not Scary At All

## PRESCHOOL ANXIETY SCALE (Parent Report)

Parent ID: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Child ID: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Below is a list of items that describe children. For each item please circle the response that best describes your child. Please circle the **4** if the item is **very often true**, **3** if the item is **quite often true**, **2** if the item is **sometimes true**, **1** if the item is **seldom true** or if it is **not true at all** circle the **0**. Please answer all the items as well as you can, even if some do not seem to apply to your child.

	Not True at All	Seldom True	Sometimes True	Quite Often True	Very Often True
1 Has difficulty stopping him/herself from worrying.....	0	1	2	3	4
2 Worries that he/she will do something to look stupid in front of other people.....	0	1	2	3	4
3 Keeps checking that he/she has done things right (e.g., that he/she closed a door, turned off a tap).....	0	1	2	3	4
4 Is tense, restless or irritable due to worrying.....	0	1	2	3	4
5 Is scared to ask an adult for help (e.g., a preschool or school teacher).....	0	1	2	3	4
6 Is reluctant to go to sleep without you or to sleep away from home.....	0	1	2	3	4
7 Is scared of heights (high places).....	0	1	2	3	4
8 Has trouble sleeping due to worrying.....	0	1	2	3	4
9 Washes his/her hands over and over many times each day.....	0	1	2	3	4
10 Is afraid of crowded or closed-in places.....	0	1	2	3	4
11 Is afraid of meeting or talking to unfamiliar people.....	0	1	2	3	4
12 Worries that something bad will happen to his/her parents.....	0	1	2	3	4
13 Is scared of thunder storms.....	0	1	2	3	4
14 Spends a large part of each day worrying about various things.....	0	1	2	3	4
15 Is afraid of talking in front of the class (preschool group) e.g., show and tell.....	0	1	2	3	4
16 Worries that something bad might happen to him/her (e.g., getting lost or kidnapped), so he/she won't be able to see you again.....	0	1	2	3	4
17 Is nervous of going swimming.....	0	1	2	3	4



	Not True at All	Seldom True	Sometimes True	Quite Often True	Very Often True
18 Has to have things in exactly the right order or position to stop bad things from happening.....	0	1	2	3	4
19 Worries that he/she will do something embarrassing in front of other people.....	0	1	2	3	4
20 Is afraid of insects and/or spiders.....	0	1	2	3	4
21 Has bad or silly thoughts or images that keep coming back over and over.....	0	1	2	3	4
22 Becomes distressed about your leaving him/her at preschool/school or with a babysitter.....	0	1	2	3	4
23 Is afraid to go up to group of children and join their activities.....	0	1	2	3	4
24 Is frightened of dogs.....	0	1	2	3	4
25 Has nightmares about being apart from you.....	0	1	2	3	4
26 Is afraid of the dark.....	0	1	2	3	4
27 Has to keep thinking special thoughts (e.g., numbers or words) to stop bad things from happening.....	0	1	2	3	4
28 Asks for reassurance when it doesn't seem necessary.....	0	1	2	3	4
29 Has <b>your child ever experienced anything really bad or traumatic</b> (e.g., severe accident, death of a family member/friend, assault, robbery, disaster) .....	<b>YES</b>	<b>NO</b>			

Please briefly describe the event that your child experienced.....

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If you answered **NO** to question 29, please **do not** answer questions 30-34. If you answered **YES**, please **DO** answer the following questions.

**Do the following statements describe your child's behaviour since the event?**

30 Has bad dreams or nightmares about the event.....	0	1	2	3	4
31 Remembers the event and becomes distressed.....	0	1	2	3	4
32 Becomes distressed when reminded of the event.....	0	1	2	3	4
33 Suddenly behaves as if he/she is reliving the bad experience.....	0	1	2	3	4
34 Shows bodily signs of fear (e.g., sweating, shaking or racing heart) when reminded of the event .....	0	1	2	3	4



# Nightmares

## WHAT ARE NIGHTMARES?

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Nightmares are scary dreams that can wake a child leaving her upset and in need of comfort. They are very common in children and often a part of normal development. It is rare to find a child or adolescent who has never experienced a nightmare. After a nightmare that results in an awakening, most children are afraid to go back to sleep and often do not want to be left alone. Very young children do not know the difference between a dream and reality, so when they wake up, they may not understand the concept that they were only dreaming and it is now over. They may keep insisting that something scary is about to occur.

Nightmares are most common between the ages of 6 and 10 years, but both younger and older children also experience nightmares. Most children experience nightmares infrequently, but others do on a frequent basis.

Before the age of 12 years, boys and girls are equally likely to have nightmares. After age 12 years, nightmares are more common in girls.

## WHAT DO CHILDREN HAVE NIGHTMARES ABOUT?

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Most young toddlers have concerns about being separated from their parents. So they may have a nightmare about being lost or having something happen to one of their parents. Nightmares in older children and adolescents often involve some type of imminent harm. Nightmares also typically include something that is scary or frightening, but can also include other negative feelings like embarrassment or disgust.

Nightmares also are more likely to happen following some difficult event. For example, if a child has just started school or if her parents have gone away overnight, she is more likely to have a nightmare. For some children, nightmares may also be the reliving of a traumatic event, such as getting lost or getting shots at the doctors. Older children often have nightmares related to scary movies or stories, or a frightening daytime experience.

## HOW CAN YOU REDUCE THE LIKELIHOOD OF NIGHTMARES?

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There are several things that you can do to help reduce the likelihood of nightmares.

- **Avoid scary stories, television shows, or movies before bedtime:** These will increase the likelihood of your child having a nightmare. Choose instead a comforting bedtime routine.
- **Identify stressors:** If there is something in your child's life that you know is distressing, try to take care of it and reassure your child. If your child suddenly experiences a significant increase in the frequency or intensity of nightmares, try to evaluate why. Look for recurring themes that could give you a clue as to the cause and then deal with the problem.
- **Ensure that your child is getting enough sleep:** Children are much more likely to have nightmares after not getting enough sleep. If your child is having nightmares, make sure that she is getting enough sleep as this can help decrease both the frequency and the intensity of nightmares.

## HOW SHOULD YOU RESPOND TO YOUR CHILD'S NIGHTMARES?

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If your child has a nightmare, there are a few things that you should do.

- **Offer reassurance:** The best thing that you can do if your child has a nightmare is comfort her. For babies and young toddlers, merely holding them and providing physical comfort is enough. For older children, verbal reassurance may also be needed. Following most nightmares, your child will be reassured by a few minutes of comfort. Stay with her in her room. Let her know that you are nearby and will make sure that s/he is safe and secure. Most children are still tired after a nightmare and will be ready to fall back to sleep.
- **Give your child a security object:** Helping a child become attached to a security object that she can keep in bed with her can be beneficial. This often helps a child feel more relaxed throughout the night.
- **Leave a light on:** If your child insists on having a light on, put it on the dimmest setting possible so that your child can fall back to sleep.
- **Discuss it the next day:** The next day, you may want to try and talk to your child about her nightmare to see if there is anything bothering her. Most of the time nightmares are isolated events with little meaning, but if your child starts having them on a frequent basis, you should try and figure out if anything is disturbing her.
- **Draw the nightmare:** Have your child imagine different endings to her nightmare and have her draw the new dream with a good ending. Another way to give your child a sense of control over her nightmares is to have her draw a picture of the bad dream but then crumple up the picture and throw it away.
- **Encourage the use of imagination:** There are other ways to help your child combat a nightmare by having her use her imagination. For example, have your child flip her pillow after a nightmare to “change the channel,” like on a television set. Hang a dream catcher over her bed, which will capture the bad dreams while letting the good dreams through.
- **Get outside help:** If your child's nightmares are severe, meaning that they are interfering in her life or occurring on a very frequent basis, speak to her physician or a mental health provider.