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Nightmares as a coping mechanism for stress

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NIGHTMARES AS A COPING MECHANISM FOR STRESS

A Thesis

Presented to

the faculty of the Department of Psychology

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by Dante Picchioni

August, 2001

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ABSTRACT

NIGHTMARES AS A COPING MECHANISM FOR STRESS

by Dante Picchioni

The cause of nightmares remains unclear. However, previous research suggests that stress may play a key role and that nightmares may actually serve a beneficial function. Thus, the purpose of this study was to examine the overall relationship between these two variables and assess the hypothesis that nightmares serve as a coping mechanism for stress. To accomplish these goals, a group of 412 psychology students were separated into low, medium and high nightmare frequency groups as well as low, medium and high nightmare intensity groups. Comparisons were then conducted for daily stressors, life stressors, social support and coping. The overall pattern seen in these analyses reflect the significant relationship between nightmares and stress as well as bolster the supposition that nightmares may help to alleviate stress.

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Nightmares as a Coping Mechanism for Stress

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Running Head: NIGHTMARES AND STRESS

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Abstract

The cause of nightmares remains unclear. However, previous research suggests that stress may play a key role and that nightmares may actually serve a beneficial function. Thus, the purpose of this study was to examine the overall relationship between these two variables and assess the hypothesis that nightmares serve as a coping mechanism for stress. To accomplish these goals, a group of 412 psychology students were separated into low, medium and high nightmare frequency groups as well as low, medium and high nightmare intensity groups. Comparisons were then conducted for daily stressors, life stressors, social support and coping. The overall pattern seen in these analyses reflect the significant relationship between nightmares and stress as well as bolster the supposition that nightmares may help to alleviate stress.

Nightmares as a Coping Mechanism for Stress

In the broadest sense, a nightmare is a disturbing dream or state of varying intensity that occurs during sleep. Although it has been reported that 47% of college students have at least one nightmare every two weeks (Wood & Bootzin, 1990) and that 5-8% of the general public reported a current "problem" with nightmares (Bixler, Kales, Soldatos, Kales & Healey, 1979; Klink & Quan, 1987), relatively little is known about their cause. However, previous research suggests that stress is an important piece of the puzzle.

Dreams and Stress

There are several studies that have implicated a link between dreams and stress by demonstrating that the content of dreams reflect the exposure to stressful experiences. Berger, Hunter and Lane (1971) awakened four hospital patients during Rapid Eye Movement (REM) sleep and collected dream reports for several nights while they were awaiting surgery as well as during the recovery period. The results clearly indicated that a large percentage of their dream content was related to the upcoming surgery. Moreover, when reports were collected post-operatively, surgery related content substantially decreased.

Other studies have produced similar results using a laboratory manipulation as the stressor. In this type of experimental design, half of the participants are given an easy sham intelligence test (low-stress condition) and the other half are given a difficult sham intelligence test (high-stress condition). The participants in the high stress condition are told the test can be finished in a certain period of time when in reality, it is not possible to

do so. De Koninck and Koulack (1975) as well as Koulack, Prevost and De Koninck (1985) demonstrated that participants in the high stress condition reported an increased amount of incorporation of the stressor compared to participants in the low stress condition. Both studies also showed that participants in the high stress condition reported more anxiety laden dreams than participants in the low stress condition. In this same context, Stewart and Koulack (1993) noted that when using the same experimental manipulation, participants in the high stress condition reported dreams that were more unpleasant than participants in the low stress condition. While these investigations establish a connection between the experience of a stressor and dreaming about that stressor, they do not give any information as to the nature of this relationship. In order to address this question, three studies have looked at this relationship in the context of an adaptive role for dreams in the response to stress.

First, Cartwright (1996) used a sample of individuals who were in the process of getting a divorce. A group of 61 participants were first separated into depressed (Beck Depression Inventory > 13) and non-depressed groups. Dream reports were then collected in the laboratory after two adaptation nights. The reports were scored by blind judges for the presence of the soon-to-be-former spouse (only direct, indisputable inclusions were counted). After one year, the participants returned to give an update on their emotional well-being. Of the depressed participants, those who incorporated their ex-spouse into their dreams rated themselves as adjusting better to their new life than those who did not. Thus, this study suggests that a direct incorporation of a stressor into one's dreams may serve as a mechanism for coping with that stressor.

Second, Greenberg, Pillard & Pearlman (1972) first showed a stressful movie on basic autopsy procedures to their participants. Anxiety ratings were recorded and the participants were split into an experimental group ($n = 8$) and a control group ($n = 8$). Participants in the experimental group were deprived of their REM sleep, which is the stage where dreams occur. In other words, they were dream deprived. Some of the participants in the control group were deprived of a stage other than REM and the others were allowed a normal night of sleep. The next day, all participants were shown the movie again and anxiety ratings were recorded again. The control participants reported a decreased amount of anxiety compared to the first viewing but the dream-deprived participants reported the same amount of anxiety. One way to interpret this finding is the participants who were allowed to dream were able to cope with the stressor and those who were not allowed to dream were not able to cope with the stressor.

Third, examining the differences between short- versus long-sleepers has also been used to investigate the effects of differing amounts of REM sleep on coping with a stressor. A short-sleeper is defined as someone who habitually sleeps less than or equal to six hours each night and a long-sleeper is defined as someone who sleeps eight or more hours each night. While the amount of time spent in each stage of sleep varies for each individual, four separate polysomnographic studies have shown that on average, long-sleepers spend over two hours in REM sleep but short-sleepers spend less than one hour in REM sleep (Hartmann, 1973; Jones & Oswald, 1968; Stuss & Broughton, 1978; Webb & Agnew, 1970). Validation of using this technique to study reduced levels of REM sleep comes from the fact that both participants who are deprived of REM sleep

(Glaubman et al., 1978) and participants who are short-sleepers (Hicks, Guista, Schretlen & Pellegrini, 1980) suffer from deficits in divergent thinking. This type of thinking is considered to be a measure of fluid intelligence and an example of a divergent thinking task is discovering novel uses for everyday objects. Using the short- versus long-sleeper methodology, Hicks, Marical and Conti (1991) asked 72 students who had experienced the 1989 San Francisco Bay area Loma Prieta earthquake to fill out a sleep habits survey and the Ways of Coping Questionnaire. The purpose of this study was to examine the effects of habitual sleep duration on the extent to which participants cope with stressors. The results showed that habitual short-sleepers employed various waking coping strategies in response to the earthquake more intensely than habitual long-sleepers. Thus, it follows from the previously mentioned attenuation of REM sleep in short-sleepers and the possibility that dreams have an adaptive value in the response to stress, that short-sleepers needed to spend more time during the day dealing with the stressor because they could not do so at night.

Research into the nature of this relationship between dreams and stress has led to the idea that one of the functions of dreaming is to cope with stress (Cartwright, 1990). Since dreams probably serve many different functions (Moffitt, Kramer & Hoffmann, 1993), it is interesting to consider this relationship in terms of how these functions might be divided. One possibility is that it depends on the type of dream. A fair amount of research has associated one particular type of dream with stress: the nightmare.

Nightmares and Stress

A direct example of a stressful event causing nightmares can be seen in a study that used the same 1989 Loma Prieta earthquake as mentioned above (Wood, Bootzin, Rosenhan, Nolen-Hoeksema & Jourden, 1992). Undergraduate students at three universities were asked to fill out a nightmare questionnaire every morning for 21 days beginning approximately ten days after this major earthquake. Participants from two San Francisco Bay area universities ($n = 92$) who experienced the earthquake were found to have a higher frequency of nightmares compared to a control group in Arizona ($n = 97$) who had not experienced the earthquake.

In a more indirect way, the relationship between stress and nightmares has also been supported by a group of studies that have used Type A behavior patterns as an indicator of experiencing high amounts of stress. An example of the behavior that typifies a Type A individual is always being in a hurry. The use of this methodology is supported by the fact that Type A individuals are more likely to experience stress-related health problems such as coronary disease compared to Type B individuals (Glass, 1977). These studies have shown that students with a Type A personality have a higher frequency of nightmares than students with a Type B personality (Hicks, Chancellor & Clark, 1987; Nesca & Koulack, 1991; Tan & Hicks, 1995).

Summary

If the nightmare is the specific type of dream that functions to help people cope with stress, the high level of self-reported nightmares in Type A individuals may be a manifestation of an elevated need to deal with stressful experiences. This leads to the

question of whether nightmares are purely pathological or can actually serve a beneficial purpose. Wood and colleagues addressed this question when relating their finding to Cartwright's theory of dream function: "the high frequency of nightmares among San Francisco Bay area students after the earthquake may represent not a psychological disorder but a manifestation of the normal dreaming process and its tendency to incorporate recent stress-inducing or threatening experience" (Wood et al., 1992, p. 223). Therefore, the purpose of this study was to further examine the overall relationship between stress and nightmares as well as assess the possibility that nightmares can serve a beneficial function in this relationship.

Variables

Nightmare frequency. Two different variables were used to examine the participant's nightmares. The first is nightmare frequency or simply how often one experiences a nightmare. The reason for the use of this dimension of nightmares is that previous studies have demonstrated an association of this variable with stress.

Nightmare intensity. Since one or two severely frightening nightmares would be as relevant as several less intense nightmares, nightmare intensity was also chosen to be included in this study. Nightmare intensity can simply be defined as the amount of distress the individual experiences from their nightmares. By looking at both the frequency and intensity of the participant's nightmares, these variables provide much more information than either one alone.

Daily stressors. Two very similar but distinct dimensions of stressful experience were examined in this study for a similar reason as including two aspects of nightmares.

In order to estimate the level of stress respondents typically experience on a regularly basis, participants were asked to report the amount of daily or micro stressors in their life. A daily stressor can be defined as an event that produces a small amount of short-lived anxiety.

Life stressors. On the other hand, it was also critical to look at stressors that might have a more long-lasting effect. These macro stressors will henceforth be referred to as life stressors because in contrast to daily stressors, a single life stressor can have a deep impact on an individual's functioning for a prolonged period of time. Thus, they can be defined as any event that produces a large amount of long-lasting anxiety.

Social support. Since stress is such a pervasive variable, it is important to also examine variables that may interact with it. One of the most important of these is social support. Conceptually, one way to define this variable is the knowledge that you have people to turn to in a time of need. Operationally, it can be defined as the number and quality of these personal relationships. Evidence for the relevance of this variable comes from a large body of literature composed of several different types of studies. In sum, there is a substantial amount of evidence that suggests social support can act as a buffer to reduce the salience of stressful experience. This can best be seen when the effect of social support on stress-related health variables is considered (see Dean & Lin, 1977 and Greenblatt, Becerra & Serafetinides, 1982 for a review of this literature). In addition, other reviews have implicated that social support may even exert this effect independently of its effects on the salience of stressful experience (Tennant, 1999).

Consequently, social support was included in this study in order to get the most complete picture of the relationship between nightmares and stress as possible.

Coping. One way to view coping is as a process whereby an individual successfully overcomes stress. Given that nightmares and stress are related along with the fact that dreams in general have been implicated in coping with stress, one of the purposes of this study was to address the possibility that nightmares are one of the specific dream types that can aid in this coping process. In order to address this, the extent to which participants actively deal with stress during the day was included as a variable in this study. Moreover, this is the most important variable as it relates most directly to the main purpose and hypotheses of the study.

Hypotheses

The purpose of this study was to examine the overall relationship between nightmares and stress as well as assess the possibility that nightmares can serve as a coping mechanism for stress. It was predicted that the analyses would give further indication that the relationship nightmares and stress is highly meaningful as well as support the notion that nightmares can serve a beneficial function. More specifically, the following four hypotheses were made that address the direction of the relationship of both nightmare variables with the other variables. First, since previous research has demonstrated that Type A behavior is positively correlated with stress (Margiotta, Davilla & Hicks, 1990) and that Type A behavior is positively correlated with nightmares (see above), it was expected that nightmare frequency and intensity would be positively related to daily stressors. Second, the same relationship was also predicted for life

stressors. Third, since previous research suggests that it mediates stress, it was expected that nightmare frequency and intensity would be negatively related to social support. Finally and most importantly, it was expected that if nightmares indeed serve as a coping mechanism for stress, then nightmare frequency and intensity would be positively related to coping. The rationale for this last outcome came from the idea that if a respondent is the type of person who copes with stress during the day with a great deal of vigor, then this process should continue while they sleep.

Method

Participants

The participants in this study were 202 male and 210 female university undergraduates. The mean age of this group was 19.5 ± 2.35 years. They estimated their typical sleep time as 6.96 ± 1.13 hours. A large portion of this sample ($n = 235$ or 35%) indicated that they were not satisfied with their sleep. The ethnic makeup of this sample grouped according to gender is listed in Table 1.

Procedure

The procedure for this study was approved by the Institutional Review Board-Human Subjects committee at San José State University (see Appendix A). Introductory psychology students completed a survey packet outside of class for course credit. This packet used six separate scales to measure each of the variables included in this study.

Scales

Nightmare frequency. The Spadafora and Hunt Dream Types Survey (1990) was used to assess nightmare frequency. This scale provides the respondent with the

Table 1.

Ethnic Distribution of Participants Grouped According to Gender

	African-American	American-Indian	Asian-American	European-American	Mexican-American	Other Hispanic	Pacific Islander	Other	Total
Male									
Count	8	2	75	47	18	8	23	16	197
Gender %	4	1	38	24	9	4	12	8	100
Female									
Count	7	1	65	65	25	5	18	23	209
Gender %	3	1	31	31	12	2	9	11	100
Total	15	3	140	112	43	13	41	39	406
Total %	3	1	34	28	11	3	10	10	100

Note. Valid $n = 406$.

definition for seven different types of dreams: lucid, archetypal, prelucid, control, fantastic nightmares, post-traumatic nightmares and night terrors. Respondents rate how often they experience each type of dream (1 = never, 2 = sometimes, 3 = occasionally, 4 = frequently and 5 = always). As a result, this scale yields a separate score for three nightmare subtypes and these were then summated to give an overall nightmare frequency measure ranging from 3-15. Although no data has been previously published on the reliability of this scale as a whole, the alpha coefficient for the three nightmare items used in this study was .62. In addition, all three nightmare items correlated significantly ($p < .05$) with nightmare intensity in the present study (fantastic nightmares $r = .41$, post-traumatic nightmares $r = .37$ and night terrors $r = .35$), which suggests that this scale has convergent validity. Please see Appendix B for a copy of this scale.

Nightmare intensity. Belicki's (1992) Nightmare Distress Questionnaire was used to measure nightmare intensity. This scale consists of 13 items in two different formats. Items 1-10 assess the frequency of events that are associated with very frightening nightmares: 4 = never, 3 = sometimes, 2 = often and 1 = always. The last three items are designed to determine how nightmares affect the person in a more general sense. For example, do nightmares affect your well-being? In this case, respondents are asked to give their answers on a five-point scale: 1 = not at all, 2 = slightly, 3 = somewhat, 4 = definitely and 5 = a great deal. The first ten items are reversed scored so a high score for the scale can be interpreted as high nightmare intensity and all items are summated to yield a score ranging from 13-55. When demonstrating the internal consistency for this

scale, alpha ranged from .83 to .88 over four experiments (Belicki, 1992). Please see Appendix C for a copy of this scale.

Daily stressors. The Hassles and Uplifts Scale (DeLongis, Folkman & Lazarus, 1988) was included to measure the level of stress the respondents experience on a daily basis. In responding to this scale, participants are asked to examine 53 things that most people must deal with on a day-to-day basis (e.g., your children, your spouse, your physical appearance, your work load). To the right and to the left of each item are the numbers 0 (none or not applicable), 1 (somewhat), 2 (quite a bit) and 3 (a great deal). Respondents then pick a number from each side to reflect how much of a hassle and how much of an uplift each item is in their daily life. As a result, any particular item could be both a hassle and an uplift. Both columns are summed to give two scores ranging from 0-159. However, since hassles can be thought of as the most direct measure of daily stressors, only this aspect of the scale was used in the present study. Factor analysis of the items in this scale yielded eight factors with Cronbach's alpha ranging from .80 to .93 (DeLongis, 1985). Please see Appendix D for a copy of this scale.

Life stressors. The college student version of the Social Readjustment Rating Scale was also included in the survey packet (Holmes & Rahe, 1967). The scale contains 49 items—each one consisting of a typical life-changing event—that the respondent is asked to check-off if it has occurred in the last 12 months. The number of checked items are then summated to yield a score that can range from 0 to 49. The construct validity of this scale has been demonstrated through correlations with the Global Inventory of Stress scale (Radmacher & Sheridan, 1989) and test-retest reliability ($r = .82$) has been

demonstrated over a two-week period (Bieliauskas & Strugar, 1976). Please see Appendix E for a copy of this scale.

Social support. The college student version of the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983) was included in order to assess the respondent's level of social support. According to the authors, this scale was "developed on theoretical grounds to cover the domain of supportive social resources that could potentially facilitate coping with stressful events" (Cohen, Mermelstein, Kamarck & Hoberman, 1985, p. 75). The scale consists of 48 items, which the participant is asked to respond to by circling true or false. The items in which the respondent circled true are summated to give a score ranging from 0-48. Cohen et al. (1985) has reviewed the convergent validity of this scale with five other social support scales and reported that correlations ranged from .30 to .46. Cronbach's alpha for this scale is .86. Please see Appendix F for a copy of this scale.

Coping. A shortened form of Ways of Coping Questionnaire was used to measure the extent to which respondents deal with stress (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986; Folkman & Lazarus, 1988). A stressful event that has occurred in their life during the last week is first described, followed by answering 48 items that are designed to determine how much they used a series of different coping strategies to deal with that event (0 = does not apply/not used, 1 = used somewhat, 2 = used quite a bit and 3 = used a great deal). The items were then summated to yield an overall indication of how much the respondent addresses stressors in his or her life ranging from 0-144. The convergent validity of this scale has been established with the

Multidimensional Coping Inventory (Endler and Parker, 1990) and Cronbach's alpha for each type of coping strategy ranges from .61-.79 (Folkman et al., 1986). Please see Appendix G for a copy of this scale.

Analysis

All participants were separated into low, medium and high groups according to their overall nightmare frequency as well as their nightmare intensity. The mean for these groups on the remaining variables were then compared using one-way Analyses of Variance. Additionally, individual planned comparisons were conducted for each low, medium and high subgroup using one-tailed *t*-tests. Finally, the degrees of freedom differ slightly for each analysis because some participants did not complete all of the scales.

Results

Descriptive Statistics

Before nightmare frequency and nightmare intensity were changed to categorical variables, means and standard deviations were calculated for all variables (see Table 2). Both nightmare indexes were somewhat positively skewed and social support was somewhat negatively skewed. An intercorrelation matrix including all of the variables before any summations were performed is also presented in Appendix H.

Group Formation

Nightmare frequency when summed across the three nightmare types yielded a range from 3-11 ($M = 5.26 \pm 1.88$). The groups for this variables were formed as follows: the low group consisted of scores ranging from 3-4 ($n = 168$), the medium group

Table 2

Variable Ranges, Means and Standard Deviationsfor the Entire Sample

	Possible Range	<u>M</u> ± <u>SD</u>
Nightmare Frequency	3-15	5.26 ± 1.88
Nightmare Intensity	13-55	19.71 ± 5.84
Daily Stressors	0-159	50.67 ± 25.55
Life Stressors	0-49	11.44 ± 5.49
Social Support	0-48	34.29 ± 7.95
Coping	0-144	60.10 ± 25.04

from 5-6 ($n = 140$) and the high group from 7-11 ($n = 97$). The range for nightmare intensity was from 13-40 ($M = 19.71 \pm 5.84$). The groups for this variable was formed as follows: the low group consisted of scores ranging from 13-16 ($n = 137$), the medium group from 17-20 ($n = 134$) and the high group from 21-40 ($n = 128$). The means and standard deviations as well as the inferential statistics for comparing daily stressors, life stressors, social support and coping according to these groupings can be found in Table 3 and Table 4.

Analyses of Variance

Daily stressors. The overall F ratio for the means on this variable when separated according to level of nightmare frequency was significant ($F_{2, 341} = 5.77, p < .01$). The overall F ratio for the means on this variable when separated according to level of nightmare intensity was also significant ($F_{2, 337} = 5.31, p < .01$). The distributions of the means for these analyses are summarized in Figure 1. Most importantly, the graphs in this figure clearly illustrate that there is a positive relationship between nightmare frequency and daily stressors as well as between nightmare intensity and daily stressors. This finding is in agreement with the first hypothesis of this study. It can also be seen in this figure that the source of the relationship between nightmare frequency and daily stressors arises mostly from the difference between the low and medium groups ($t_{339} = -2.07, p < .05$) together with the difference between the low and high groups ($t_{339} = -3.31, p < .001$). On the other hand, the source of the relationship between nightmare intensity and daily stressors arises mostly from the difference between the low and high groups

Table 3

Means, Standard Deviations, F ratios with effects sizes and Individual Comparisons

According to the Level of Nightmare Frequency

	Nightmare Frequency			<u>F</u>	est ω^2
	<u>Low</u>	<u>Medium</u>	<u>High</u>		
Daily Stressors	45.39 _{ab} ± 24.69	51.91 _a ± 24.33	56.85 _b ± 27.07	5.77*	.03
Life Stressors	10.85 _a ± 5.4	11.16 _b ± 5.32	12.84 _{ab} ± 5.75	4.24*	.02
Social Support	35.52 _{ab} ± 7.05	33.72 _a ± 8.54	33.28 _b ± 8.34	3.11*	.01
Coping	58.45 _a ± 25.41	58.62 _b ± 26.38	64.8 _{ab} ± 25.2	2.21	.01

Note. Means with identical subscripts are significantly different at $p < .05$ using planned comparison t-tests.

* $p < .05$.

Table 4

Means, Standard Deviations, F ratios with effects sizes and Individual ComparisonsAccording to the Level of Nightmare Intensity

	Nightmare Intensity			F	est ω^2
	<u>Low</u>	<u>Medium</u>	<u>High</u>		
Daily Stressors	45.85 _a ± 26.49	49.57 _b ± 22.2	56.82 _{ab} ± 26.96	5.31*	.02
Life Stressors	10.61 _a ± 5.42	11.59 ± 4.24	12.34 _a ± 6.57	3.31*	.01
Social Support	34.88 _a ± 8.24	35.98 _b ± 6.75	32.06 _{ab} ± 8.35	8.60*	.04
Coping	55.9 _a ± 27.04	58.02 _b ± 23.65	66.31 _{ab} ± 23.19	6.19*	.03

Note. Means with identical subscripts are significantly different at $p < .05$ using planned comparison t -tests.

* $p < .05$.

Figure 1. Nightmare Frequency and Intensity Means plots with 95% confidence intervals for Daily Stressors.

($t_{335} = -3.22, p < .001$) together with the difference between the medium and high groups ($t_{335} = -2.15, p < .05$).

Life stressors. The overall F ratio for the means on this variable when separated according to level of nightmare frequency was significant ($F_{2, 396} = 4.24, p < .05$). The overall F ratio for the means on this variable when separated according to level of nightmare intensity was also significant ($F_{2, 393} = 3.31, p < .05$). The distributions of the means for these analyses are summarized in Figure 2. Most importantly, the graphs in this figure clearly illustrate that there is a positive relationship between nightmare frequency and life stressors as well as between nightmare intensity and life stressors. This finding is in agreement with the second hypothesis of this study. It can also be seen in this figure that the source of the relationship between nightmare frequency and life stressors arises mostly from the difference between the low and high groups ($t_{394} = -2.82, p < .01$) together with the difference between the medium and high groups ($t_{394} = -2.03, p < .05$). On the other hand, the source of the relationship between nightmare intensity and life stressors arises mostly from the difference between the low and high groups ($t_{391} = -2.56, p < .01$).

Social support. The overall F ratio for the means on this variable when separated according to level of nightmare frequency was significant ($F_{2, 397} = 3.11, p < .05$). The overall F ratio for the means on this variable when separated according to level of nightmare intensity was also significant ($F_{2, 392} = 8.60, p < .001$). The distributions of the means for these analyses are summarized in Figure 3. Most importantly, the graphs in this figure illustrate that there is a negative relationship between nightmare frequency and

Figure 2. Nightmare Frequency and Intensity Means plots with 95% confidence intervals for Life Stressors.

Figure 3. Nightmare Frequency and Intensity Means plots with 95% confidence intervals for Social Support.

social support as well as between nightmare intensity and social support. This finding is in agreement with the third hypothesis of this study. It can also be seen in this figure that the source of the relationship between nightmare frequency and social support arises mostly from the difference between the low and medium groups ($t_{395} = 1.97, p < .05$) together with the difference between the low and high groups ($t_{395} = 2.20, p < .05$). On the other hand, the source of the relationship between nightmare intensity and social support arises mostly from the difference between the low and high groups ($t_{390} = 2.91, p < .01$) together with the difference between the medium and high groups ($t_{390} = 4.03, p < .001$). The fact that social support actually increased from the low nightmare intensity group to the medium nightmare intensity group is inconsequential since this comparison was non-significant ($t_{390} = -1.16, p = .12$).

Coping. The overall F ratio for the means on this variable when separated according to level of nightmare frequency was not significant ($F_{2, 379} = 2.21, p = .11$). However, the overall F ratio for the means on this variable when separated according to level of nightmare intensity was significant ($F_{2, 375} = 6.19, p < .01$). The distributions of the means for these analyses are summarized in Figure 4. Most importantly, the graphs in this figure clearly illustrate that there is a positive relationship between both nightmare frequency and coping as well as between nightmare intensity and coping. This finding is in agreement with the final hypothesis of this study and suggests that nightmares and coping may serve similar functions because they occur together. It can also be seen from Figure 4 that the source of the relationship between nightmare frequency and coping arises mostly from the difference between the low and high groups ($t_{377} = -1.94, p < .05$)

Figure 4. Nightmare Frequency and Intensity Means plots with 95% confidence intervals for Coping.

together with the difference between the medium and high groups ($t_{377} = -1.81, p < .05$). On the other hand, the source of the relationship between nightmare intensity and coping can be seen to arise mostly from the difference between the low and high groups ($t_{373} = -3.35, p < .001$) together with the difference between the medium and high groups ($t_{373} = -2.62, p < .01$).

Discussion

It was hypothesized that the nightmare variables would be positively related to daily stressors, positively related to life stressors, negatively related to social support and positively related to coping. All of these hypotheses were supported. Thus, the overall pattern of findings seen in this study reflects the significant relationship between nightmares and stress.

Implications

Daily stressors. Stress is very pervasive as well complex. As a result, this study examined the relationship between nightmares and stress on two fronts: daily or micro stressors and life or macro stressors. The relationship between the nightmare variables and daily stressors was significant and suggests that even slight nuisances or hassles can impart an influence on a participant's nightmares. This finding is complementary to the finding associated with other more long-lasting or macro stressors.

Life stressors. Since the relationship between both nightmare variables and life stressors was also significant, it seems very clear that stress—regardless of its form—is intrinsically related to nightmares. This conclusion is essential in addressing the presence

of a relationship between nightmares and stress but it does not address the nature of this relationship.

Social support. Although social support also does not address the nature of the relationship between nightmare and stress, it is important in increasing our understanding of the relationship. The Interpersonal Support Evaluation List was included in this study because it was suspected that of all the possible variables that could influence the relationship between nightmares and stress, social support would most likely have the largest effect. This was suspected because of the well-known possibility that social support buffers the effects of stress. The fact that high levels of social support were associated with low levels of nightmare frequency and nightmare intensity provides additional evidence for the meaningful role of nightmares in the response to stress. This conclusion is warranted because if social support indeed buffers the effects of stress, then it would be logical to assume that the relationship between nightmares and stress would be attenuated at high levels of social support.

Coping. More than anything else, the importance of this study lies in the discovery that nightmares and coping with stress are associated. The importance of this finding stems from the fact that this association addresses the nature of the relationship between nightmares and stress in addition to addressing one of the possible functions of dreams. Once again, we hypothesized that nightmares and coping would be positively related because if an individual actively deal with stress during the day, this process should continue while he sleeps. In other words, perhaps nightmares and coping were associated because they serve similar functions (Hicks et al., 1987). Moreover, this

finding is highly suggestive that one of the functions of dreams is to aid in the coping process. The possible role of dreams in coping with stress has been previously addressed and eloquently summarized by Cartwright (1990):

Dreaming is involved in reviewing, reorganizing, and rehearsing concepts of who we are and how we are doing in our own eyes. The system shows up best when we are under stress and threatened with a major life change that requires new responses (p. 188).

Since dreams are associated with the coping process (Cartwright, 1996; Greenberg et al., 1972; Hicks et al., 1991) and since dreams probably serve multiple functions (Moffitt et al., 1993), it is appropriate to explore how this one particular function may present itself. If a stressor is incorporated into an individual's dream in order for this person to cope with it, how might this dream be classified? Based on the definition of a nightmare as a disturbing dream or state of varying intensity that occurs during sleep, this dream would be classified as a nightmare. Thus, as soon as a stressor is incorporated into a dream and the dream becomes disturbing—even if only by a small degree—it should be considered a nightmare. And hence, it is very possible that nightmares are the specific dream type that aid in the coping process. Although counterintuitive, there are two specific possibilities that relate to how nightmare may be accomplishing this.

Nightmares may serve to reduce the salience of a stressor through its repeated exposure. This disruption-avoidance-adaptation model of dream function (Stewart & Koulack, 1993) can be thought of being similar to systematic desensitization. That is, the repeated exposure of a stressor successively reduces its associated fear or anxiety.

However, a more powerful explanation of how nightmares may serve as a coping mechanism for stress is through problem solving. Numerous studies have shown that high amounts of REM sleep are associated with high levels of fluid intelligence and divergent thinking (Feinberg, Koresko & Heller, 1967; Glaubman et al., 1978; Hicks, et al., 1980; Hicks, Pellegrini, Cavanaugh, Sahatjian & Sandham, 1978). Indeed, the inspiration for at least two discoveries that eventually resulted in the investigators winning the Nobel Prize can be traced to a dream. In the mid-nineteenth century, chemists were struggling with deciphering the molecular structure of the benzene ring because all molecular structures known at the time were linear. Friedrich August Kekulé von Stradonitz had been dreaming of this problem repeatedly for some time. However, one afternoon he took a nap and woke up with the solution.

I turned my chair to the fire and dozed. Again the atoms were gamboling before my eyes. This time the smaller group kept modestly in the background. My mental eye, rendered more acute by repeated visions of the kind, could now distinguish larger structures, of manifold conformation; long rows, sometimes more closely fitted together; all twining and twisting in snake-like motion. But look! What was that? One of the snakes had seized hold of its own tail, and the form whirled mockingly before my eyes. As if by a flash of lightning I awoke... (Findlay, 1948, p. 37).

In addition, Otto Loewi had suspected for at least 17 years that the basis for neural communication was chemical but was unable to design an experiment to test this hypothesis. Loewi continuously labored with this problem until he dreamt the design for

a simple experiment involving an isolated frog heart (Loewi, 1960). These and other accounts of insight through dreaming has led authors to place a great deal of importance of sleep mentation on creativity (Koestler, 1967). And if the simple assumption that a stressor is a kind of emotional problem is made, the present study provides further support for the theory that nightmares and other dreams play a significant role in creativity and problem solving. Thus, it seems that dreams hold a great deal of potential to help us solve problems. In essence, dreams represent a limitless universe where any number of possible solutions to a problem can be explored in as many different ways as can be imagined.

Conclusion

The overall pattern seen in the analyses of this study undoubtedly reflect the significant relationship between nightmares and stress. Furthermore, this study provides substantial evidence that nightmares may not always be harmful. If this idea still seems somewhat foreign, consider the following hypothetical situation. A woman is raped by a man with a gun and does not resist the attacker in fear of her life. The victim goes through months of trauma rehabilitation only to be plagued by reoccurring nightmares and the persistent thought: "I should have tried to fight him off." However on one particular night, instead of her nightmare simply repeating the trauma, she resists and is killed. Though she has not reached the end of the road to recovery, her counseling sessions seem to finally be making a difference and she begins feeling better. While overly obvious in its intent, this example does illustrate how nightmares and other dreams may provide a unique mechanism that supports our attempts to cope with stressful situations. In other

words, perhaps the "coping" that occurs while we are asleep is reflective of a continuous process that works in conjunction with the coping we do when we are awake.

References

- Belicki, K. (1992). The relationship of nightmare frequency to nightmare suffering with implications for treatment and research. Dreaming, 2, 143-148.
- Berger, L., Hunter, I. & Lane, R.W. (1971). The effects of stress on dreams. Psychological Issues, 7, 213.
- Bieliauskas, L.A. & Strugar D.A. (1976). Sample size characteristics and scores on the social readjustment rating scale. Journal of Psychosomatic Research, 20, 201-205.
- Bixler, E., Kales, A., Soldatos, C., Kales, J. & Healey, S. (1979). Prevalence of sleep disorders in the Los Angeles Metropolitan Area. American Journal of Psychiatry, 136, 1257-1262.
- Cartwright, R. (1990). A network model of dreams. In R.R. Bootzin, J.F. Kihlstrom & D.L. Schacter (Eds.), Sleep and cognition (pp. 179-189). Washington, DC: American Psychological Association.
- Cartwright, R. (1996). Dreams and adaptation to divorce. In Barrett, D. (Ed.), Trauma and dreams (pp. 179-185). Cambridge, MA: Harvard University Press.
- Cohen, S. & Hoberman, H.M. (1983). Positive events and social support as buffers of life change stress. Journal of Applied Social Psychology, 13, 99-125.
- Cohen, S., Mermelstein, R., Kamarck, T. & Hoberman, H.M. (1985). Measuring the functional components of social support. In I.G. Sarason & B.R. Sarason (Eds.), Social support: theory, research and applications (pp. 73-94). Boston, MA: Martinus Nijhoff.
- Dean, A. & Lin, N. (1977). The stress-buffering role of social support. Journal of Nervous and Mental Disease, 165, 403-417.
- De Koninck, J.M. & Koulack, D. (1975). Dream content and adaptation to a stressful situation. Journal of Abnormal Psychology, 84, 250-260.
- DeLongis, A. (1985). The relationship of everyday stress to health and well-being: inter- and intraindividual approaches. Unpublished doctoral dissertation, University of California, Berkeley.
- DeLongis, A., Folkman, S. & Lazarus, R. (1988). The impact of daily stress on health and mood: psychological and social resources as mediators. Journal of Personality and Social Psychology, 54, 486-495.

Endler, N.S. & Parker, J.D. (1990). Multidimensional assessment of coping: a critical evaluation. Journal of Personality and Social Psychology, 58, 844-854.

Feinberg, I., Koresko, R.L. & Heller, N. (1967). EEG sleep patterns as a function of normal and pathological aging in man. Psychiatry Research, 5, 107-144.

Findlay, A. (1948). A hundred years of chemistry. London: Duckworth.

Folkman, S. & Lazarus, R.S. (1988). Manual for the Ways of Coping Questionnaire: research edition. Palo Alto, CA: Consulting Psychologists Press.

Folkman, S., Lazarus, R.S., Dunkel-Schetter, C., DeLongis, A. & Gruen, R.J. (1986). Dynamics of a stressful encounter: cognitive appraisal, coping, and encounter outcomes. Journal of Personality and Social Psychology, 50, 992-1003.

Glass, D.C. (1977). Behavior patterns, stress and coronary disease. Hillsdale, NJ: Erlbaum.

Glaubman, H., Orbach, I., Aviram, O., Frieder, I., Frieman, M., Pelled, O. & Glaubman, R. (1978). REM deprivation and divergent thinking. Psychophysiology, 15, 75-79.

Greenberg, R., Pillard, R. & Pearlman, C. (1972). The effect of dream (stage REM) deprivation on adaptation to stress. Psychosomatic Medicine, 34, 257-262.

Greenblatt, M., Becerra, R.M. & Serafetinides, E.A. (1982). Social networks and mental health: an overview. American Journal of Psychiatry, 139, 977-984.

Hartmann, E. (1973). The functions of sleep. New Haven, CT: Yale University Press.

Hicks, R.A., Chancellor, C. & Clark, T. (1987). The valence of dreams reported by Type A-B college students. Perceptual and Motor Skills, 65, 748-750.

Hicks, R.A., Guista, M., Schretlen, D. & Pellegrini, R.J. (1980). Habitual duration of sleep and divergent thinking. Psychological Reports, 46, 426.

Hicks, R.A., Marical, C.M. & Conti, P.A. (1991). Coping with a major stressor: differences between habitual short- and long-sleepers. Perceptual and Motor Skills, 72, 631-636.

Hicks, R.A., Pellegrini, R.J., Cavanaugh, A., Sahatjian, M. & Sandham, L. (1978). Fluid intelligence levels of short- and long-sleepers. Psychological Reports, 43, 1325-1326.

Holmes, T.H. & Rahe, R.H. (1967). A social readjustment rating scale. Journal of Psychosomatic Research, 11, 213-218.

Jones, H.S. & Oswald, I. (1968). Two cases of healthy insomnia. Electroencephalography and Clinical Neurophysiology, 24, 378-380.

Klink, M. & Quan, S. (1987). Prevalence of reported sleep disturbances in a general adult population and their relationship to obstructive airway diseases. Chest, 91, 540-546.

Koestler, A. (1967). The act of creation. New York: MacMillan.

Koulack, D., Prevost, F. & De Koninck, J. (1985). Sleep, dreaming, and adaptation to a stressful intellectual activity. Sleep, 8, 244-253.

Loewi, O. (1960). An autobiographical sketch. Perception in Biology and Medicine, 4, 3-25.

Margiotta, E.W., Davilla, D.A. & Hicks, R.A. (1990). Type A-B behavior and the self-report of daily hassles and uplifts. Perceptual and Motor Skills, 70, 777-778.

Moffitt, A., Kramer, M. & Hoffmann, R. (1993). The functions of dreaming. Albany, NY: State University of New York Press.

Nesca, M. & Koulack, D. (1991). Dream content and mood of Type A-B college students. Canadian Journal of Behavioral Science, 23, 469-474.

Radmacher, S.A. & Sheridan, C.L. (1989). The Global Inventory of Stress: A comprehensive approach to stress assessment. Medical Psychotherapy, 2, 183-188.

Spadafora, A & Hunt, H. (1990). The multiplicity of dreams: cognitive-affective correlates of lucid, archetypal, and nightmare dreaming. Perceptual and Motor Skills, 71, 627-644.

Stewart, D.W. & Koulack, D. (1993). The function of dreams in adaptation to stress over time. Dreaming, 3, 259-268.

Stuss, D. & Broughton, R.J. (1978). Extreme short sleep: personality profiles and a case study of sleep requirement. Waking and Sleeping, 2, 101-105.

Tan, V.L. & Hicks, R.A. (1995). Type A-B behavior and nightmare types among college students. Perceptual and Motor Skills, 81, 15-19.

Tennant, C. (1999). Life stress, social support and coronary heart disease. Australian and New Zealand Journal of Psychiatry, 33, 636-641.

Webb, W.B. & Agnew, H.W. Sleep stage characteristics of long and short sleepers. Science, 168, 146-147.

Wood, J.M. & Bootzin, R.R. (1990). The prevalence of nightmares and their independence from anxiety. Journal of Abnormal Psychology, 99, 64-68.

Wood, J.M., Bootzin, R.R., Rosenhan, D., Nolen-Hoeksema, S. & Jourden, F. (1992). Effects of the 1989 San Francisco earthquake on frequency and content of nightmares. Journal of Abnormal Psychology, 101, 219-224.

Appendixes

Appendix A. HS-IRB Approval Letter

Office of the Academic
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TO: Dante Picchioni
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San Jose, CA 95112

FROM: Nabil Ibrahim,
AVP, Graduate Studies & Research

DATE: November 15, 1999

The Human Subjects-Institutional Review Board has approved
your request to use human subjects in the study entitled:

"Nightmares as a Coping Mechanism for Stress"

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to any and all data that may be collected from the subjects. The Board's approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Nabil Ibrahim, Ph.D., immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact me at
(408) 924-2480.

The California State University
Chancellor's Office
Bakersfield, Chico, Dominguez Hills,
Fresno, Fullerton, Hayward, Humboldt,
Long Beach, Los Angeles, Maritime Academy,
Merced, Monterey Bay, Northridge, Pomona,
Sacramento, San Bernardino, San Diego,
San Francisco, San Jose, San Luis Obispo,
San Marcos, Sonoma, Stanislaus

Appendix B. The Spadafora and Hunt Dream Types Survey

Please read the definitions provided for each dream type and identify the frequency with which you experience each type. N S O F A ____

LUCID DREAMS (vivid dreams in which you realize that you are dreaming while you are still in the dream). N S O F A ____

ARCHETYPAL DREAMS (dreams that carry a sense of awe and fascination and/or include encounters with strange and unusual beings - perhaps reminiscent of mythology and fairy tales). N S O F A ____

FANTASTIC NIGHTMARES (very vivid, upsetting dreams that you remember in detail upon awakening and can involve a wide range of negative emotions). N S O F A ____

PRELUCID DREAMS (where one questions whether one is dreaming, but cannot decide). N S O F A ____

CONTROL DREAMS (where control not possible in waking life is deliberately exercised in the dream, with or without lucid awareness of dreaming). N S O F A ____

POST TRAUMATIC NIGHTMARES (dreams repeating an actual past trauma). N S O F A ____

NIGHT TERRORS (terrifying awakenings without any recall of dream content) N S O F A ____

Appendix C. The Belicki Nightmare Distress Questionnaire

USE THE FOLLOWING SCALE TO ANSWER THE QUESTIONS BELOW AND CHOOSE THE NUMBER THAT BEST DESCRIBES YOUR NIGHTMARES FOR THE PAST YEAR. **PUT THE NUMBER OF YOUR ANSWER ON THE LINE NEXT TO THE QUESTION.**

1	2	3	4
ALWAYS	OFTEN	SOMETIMES	NEVER

- ___ 1. When you awake from a nightmare, do you find you keep thinking about it and have difficulty putting it out of your mind?
- ___ 2. Do you ever find yourself avoiding or disliking or fearing someone because they were in your nightmare?
- ___ 3. Are you ever afraid to fall asleep for fear of having a nightmare?
- ___ 4. After you awake from a nightmare, do you have difficulty falling back asleep?
- ___ 5. Do you have difficulty coping with nightmares?
- ___ 6. Do you feel you have a problem with nightmares?
- ___ 7. Do you ever have the feeling that something which happened in your nightmare has really occurred?
- ___ 8. Do your nightmares foretell the future?
- ___ 9. When you have a nightmare, does it ever seem so real that when you awake you have difficulty convincing yourself it's just a dream?
- ___ 10. In the past year have you considered seeking professional help for your nightmares?

FOR THE NEXT QUESTIONS USE THE SCALE BELOW IT AND PLACE THE NUMBER OF THE ANSWER ON THE LINE. CHOOSE THE ONE THAT BEST DESCRIBES YOUR NIGHTMARES FOR THE PAST YEAR.

- ___ 11. Do your nightmares affect your well being?
1. Not at All 2. Slightly 3. Somewhat 4. Definitely 5. A Great Deal
- ___ 12. Do your nightmares interfere with the quality of your sleep?
1. Not at All 2. Slightly 3. Somewhat 4. Definitely 5. A Great Deal
- ___ 13. If a therapy program were available which might help you control or to stop nightmares, how interested would you be in participating?
1. Not at all Interested 2. Slightly Interested 3. Somewhat Interested 4. Very Interested
5. Extremely Interested

Appendix D. The Hassles and Uplifts Scale

HASSLES are irritants—things that annoy or bother you; they can make you upset or angry. UPLIFTS are events that make you feel good; they can make you joyful, glad, or satisfied. Some hassles and uplifts occur on a fairly regular basis and others are relatively rare. Some have only a slight effect. Others have a strong effect.

This questionnaire lists things that can be hassles and uplifts in day-to-day life. You will find that during the course of a day some of these things will have been only a hassle for you and some will have been only an uplift. Others will have been both a hassle AND an uplift.

DIRECTIONS: Please think about how much of a hassle and how much of an uplift each item was for you yesterday. Please indicate on the left-hand side of the page (under "HASSLES") how much of a hassle the item was by circling the appropriate number. Then indicate on the right-hand side of the page (under "UPLIFTS") how much of an uplift it was for you by circling the appropriate number.

Remember, circle one number on the left-hand side of the page and one number on the right-hand side of the page for each item.

How much of a hassle was this item for you?	How much of an uplift was this item for you?
HASSLES	UPLIFTS
0 - None or not applicable	0 - None or not applicable
1 - Somewhat	1 - Somewhat
2 - Quite a bit	2 - Quite a bit
3 - A great deal	3 - A great deal

DIRECTIONS: Please circle one number on the left-hand side and one number on the right-hand side for each item.

0 1 2 3	1. Your child(ren)	0 1 2 3	17. Meeting deadlines or goals on the job	0 1 2 3
0 1 2 3	2. Your parents or parents-in-law	0 1 2 3	18. Enough money for necessities (e.g. food, clothing, housing, health care, taxes, insurance)	0 1 2 3
0 1 2 3	3. Other relatives	0 1 2 3	19. Enough money for education	0 1 2 3
0 1 2 3	4. Your spouse	0 1 2 3	20. Enough money for emergencies	0 1 2 3
0 1 2 3	5. Time spent with family	0 1 2 3	21. Enough money for extras (e.g. entertainment, recreation, vacations)	0 1 2 3
0 1 2 3	6. Health or well-being of a family member	0 1 2 3	22. Financial care for someone who doesn't live with you	0 1 2 3
0 1 2 3	7. Sex	0 1 2 3	23. Investments	0 1 2 3
0 1 2 3	8. Intimacy	0 1 2 3	24. Your smoking	0 1 2 3
0 1 2 3	9. Family-related obligations	0 1 2 3	25. Your drinking	0 1 2 3
0 1 2 3	10. Your friend(s)	0 1 2 3	26. Mood-altering drugs	0 1 2 3
0 1 2 3	11. Fellow workers	0 1 2 3	27. Your physical appearance	0 1 2 3
0 1 2 3	12. Clients, customers, patients, etc.	0 1 2 3	28. Contraception	0 1 2 3
0 1 2 3	13. Your supervisor or employer	0 1 2 3	29. Exercise(s)	0 1 2 3
0 1 2 3	14. The nature of your work	0 1 2 3	30. Your medical care	0 1 2 3
0 1 2 3	15. Your work load	0 1 2 3	31. Your health	0 1 2 3
0 1 2 3	16. Your job security	0 1 2 3	32. Your physical abilities	0 1 2 3
		0 1 2 3	33. The weather	0 1 2 3
		0 1 2 3	34. News events	0 1 2 3
		0 1 2 3	35. Your environment (e.g. quality of air, noise level, greenery)	0 1 2 3
		0 1 2 3	36. Political or social issues	0 1 2 3
		0 1 2 3	37. Your neighborhood (e.g. neighbors, setting)	0 1 2 3
		0 1 2 3	38. Conserving (e.g. gas, electricity, water, gasoline, etc.)	0 1 2 3
		0 1 2 3	39. Pets	0 1 2 3
		0 1 2 3	40. Cooking	0 1 2 3
		0 1 2 3	41. Housework	0 1 2 3
		0 1 2 3	42. Home repairs	0 1 2 3
		0 1 2 3	43. Yardwork	0 1 2 3
		0 1 2 3	44. Car maintenance	0 1 2 3
		0 1 2 3	45. Taking care of paperwork (e.g. paying bills, filling out forms)	0 1 2 3
		0 1 2 3	46. Home entertainment (e.g. TV, music, reading)	0 1 2 3
		0 1 2 3	47. Amount of free time	0 1 2 3
		0 1 2 3	48. Recreation and entertainment outside of the home (e.g. movies, sports, eating out, walking)	0 1 2 3
		0 1 2 3	49. Eating (at home)	0 1 2 3
		0 1 2 3	50. Church or community organization	0 1 2 3
		0 1 2 3	51. Legal matters	0 1 2 3
		0 1 2 3	52. Being organized	0 1 2 3
		0 1 2 3	53. Social commitments	0 1 2 3

Appendix E. The Social Readjustment Rating Scale - student version

For the life events listed below, please check those that have occurred **WITHIN THE LAST TWELVE MONTHS** of your life.

- ☐ 1. Death of spouse, parent, boyfriend/girlfriend
- ☐ 2. Divorce (of yourself or your parents)
- ☐ 3. Puberty
- ☐ 4. Pregnancy (or causing pregnancy)
- ☐ 5. Marital separation or breakup with boyfriend/girlfriend
- ☐ 6. Jail term or probation
- ☐ 7. Death of other family member (other than spouse, parent, or boyfriend/girlfriend)
- ☐ 8. Broken engagement
- ☐ 9. Engagement
- ☐ 10. Serious personal injury or illness
- ☐ 11. Marriage
- ☐ 12. Entering college or beginning next level of school (starting junior high or high school)
- ☐ 13. Change in independence or responsibility
- ☐ 14. Any drug and/or alcohol use
- ☐ 15. Fired at work or expelled from school
- ☐ 16. Change in alcohol or drug use
- ☐ 17. Reconciliation with mate, family or boyfriend/girlfriend (getting back together)
- ☐ 18. Trouble at school
- ☐ 19. Serious health problem of a family member
- ☐ 20. Working while attending school
- ☐ 21. Working more than 40 hours per week
- ☐ 22. Changing course of study
- ☐ 23. Change in frequency of dating
- ☐ 24. Sexual adjustment problems
- ☐ 25. Gain of a new family member (new baby born or parent remarries)
- ☐ 26. Change in work responsibilities
- ☐ 27. Change in financial state
- ☐ 28. Death of a close friend (not a family member)
- ☐ 29. Change to a different kind of work
- ☐ 30. Change in number of arguments with mate, family or friends
- ☐ 31. Sleep less than 8 hours per night
- ☐ 32. Trouble with in-laws or boyfriends/girlfriends family
- ☐ 33. Outstanding personal achievement (awards, grades, etc.)
- ☐ 34. Mate or parents start or stop working
- ☐ 35. Begin or end school
- ☐ 36. Change in living conditions (visitors in the home, remodeling house, change in roommates)
- ☐ 37. Change in personal habits (start or stop a habit like smoking or dieting)
- ☐ 38. Chronic allergies
- ☐ 39. Trouble with the boss
- ☐ 40. Change in work hours
- ☐ 41. Change in residence
- ☐ 42. Change to a new school
- ☐ 43. Presently in pre-menstrual period
- ☐ 44. Change in religious activity
- ☐ 45. Going in debt (you or your family)
- ☐ 46. Change in frequency of family gatherings
- ☐ 47. Vacation
- ☐ 48. Presently in winter holiday season
- ☐ 49. Minor violation of the law

Appendix F. The interpersonal Support Evaluation List - student version

The statements in this test represent experiences, or feelings, that are true of some people but are not true of others. Read each statement and decide whether or not it is true with respect to yourself. If it is true or mostly true, check A in the answer column. If the statement is not usually true or is not true at all, check the letter B.

Work quickly, and don't spend too much time over any question; record your first reaction, not a long thought process. Answer each statement as honestly as you can. There are no right or wrong answers.

Remember: A for true or mostly true
 B for false or mostly false

A	B	
___	___	1. I know someone who would loan me \$50 so I could go away for the weekend.
___	___	2. I know someone who would give me some old dishes if I moved into my own apartment.
___	___	3. I know someone who would loan me \$100 to help pay my tuition.
___	___	4. If I needed it, my family would provide me with an allowance and spending money.
___	___	5. If I wanted a date for a party next weekend, I know someone at school or in town who would fix me up.
___	___	6. I know someone at school or in town who would bring my meals to my room or apartment if I were sick.
___	___	7. I don't know anyone who would loan me several hundred dollars to pay a doctor bill or dental bill.
___	___	8. I don't know anyone who would give me some old furniture if I moved into my own apartment.
___	___	9. Even if I needed it my family would (or could) not give me money for tuition and books.
___	___	10. I don't know anyone at school or in town who would help me study for an exam by spending several hours reading me questions.
___	___	11. I don't know anyone at school or in town who would loan me their car for a couple of hours.
___	___	12. I don't know anyone at school or in town who would get assignments for me from my teachers if I was sick.
___	___	13. There are people at school or in town who I regularly run with, exercise with, or play sports with.
___	___	14. I hang out in a friend's room or apartment quite a lot.
___	___	15. I can get a date who I enjoy spending time with whenever I want.
___	___	16. If I decided at dinner time to take a study break this evening and go to a movie, I could easily find someone to go with me.
___	___	17. People hang out in my room or apartment during the day or in the evening.
___	___	18. I belong to a group at school or in town that meets regularly or does things together regularly.
___	___	19. I am not a member of any social groups (such as church groups, clubs, teams, etc.).
___	___	20. Lately, I often feel lonely, like I don't have anyone to reach out to.
___	___	21. I don't have friends at school or in town who would comfort me by showing some physical affection.
___	___	22. I don't often get invited to do things with other people.
___	___	23. I don't talk to a member of my family at least once a week.

- — 24. I don't usually spend two evenings on the weekend doing something with others.
- — 25. I know someone who I see or talk to often with whom I would feel perfectly comfortable talking about problems I might have budgeting my time between school and my social life.
- — 26. I know someone who I see or talk to often with whom I would feel perfectly comfortable talking about any problems I might have adjusting to college life.
- — 27. I know someone who I see or talk to often with whom I would feel perfectly comfortable talking about sexually transmitted diseases.
- — 28. I know someone who I see or talk to often with whom I would feel perfectly comfortable talking about any problems I might have meeting people.
- — 29. I know someone who I see or talk to often with whom I would feel perfectly comfortable discussing any sexual problems I might have.
- — 30. I know someone who I see or talk to often with whom I would feel perfectly comfortable talking about any problems I might have with drugs.
- — 31. There isn't anyone at school or in town with whom I would feel perfectly comfortable talking about any problems I might have with making friends.
- — 32. There isn't anyone at school or in town with whom I would feel perfectly comfortable talking about any problems I might have getting along with my parents.
- — 33. There isn't anyone at school or in town with whom I would feel perfectly comfortable talking about difficulties with my social life.
- — 34. There isn't anyone at school or in town with whom I would feel perfectly comfortable talking about my feelings of loneliness and depression.
- — 35. I don't know anyone at school or in town who makes my problems clearer and easier to understand.
- — 36. Lately, when I've been troubled, I keep things to myself.
- — 37. Most people who know me well think highly of me.
- — 38. Most of my friends think that I'm smart.
- — 39. Most of my friends don't do as well as I do in school.
- — 40. I will have a better future than most other people will.
- — 41. Most of my friends have not adjusted to college as easily as I have.
- — 42. Most people think I have a good sense of humor.
- — 43. I don't feel friendly with any teaching assistants, professors, campus or student officials.
- — 44. Most of my friends are more satisfied or happier with themselves than I am.
- — 45. Most of my friends are more popular than I am.
- — 46. Most of my friends are more interesting than I am.
- — 47. Most of my friends have more control over what happens to them than I.
- — 48. Most people are more attractive than I am.

Appendix G. The Ways of Coping Questionnaire

Now take a few moments to think about the most stressful situation that you have experienced in the past week. By "stressful" we mean a situation that was difficult or troubling for you, either because you felt distressed about what happened, or because you had to use considerable effort to deal with the situation. It might have been a discussion or confrontation with someone close to you, a problem at work, a medical problem, a separation from someone you care about, a problem with your car, or something else.

In the space below describe briefly, who was involved, what happened, and what made the situation stressful for you.

Please read each option below and indicate by circling the appropriate number to what extent you used it in the situation you just described.

- 0 - Does not apply and/or not used
 1 - Used somewhat
 2 - Used quite a bit
 3 - Used a great deal

1. Stood my ground and fought for what I wanted. 0 1 2 3
2. Tried to get the person responsible to change his or her mind. 0 1 2 3
3. I expressed anger to the person(s) who caused the problem. 0 1 2 3
4. I let my feelings out somehow. 0 1 2 3
5. Took a big chance or did something very risky. 0 1 2 3
6. I did something which I didn't think would work, but at least I was doing something. 0 1 2 3
7. Made light of the situation; refused to get too serious about it. 0 1 2 3
8. Went on as if nothing had happened. 0 1 2 3
9. Didn't let it get to me; refused to think about it too much. 0 1 2 3
10. Tried to forget the whole thing. 0 1 2 3
11. Looked for the silver lining, so to speak; tried to look on the bright side of things. 0 1 2 3
12. I tried to keep my feelings to myself. 0 1 2 3
13. Kept others from knowing how bad things were. 0 1 2 3

14. Tried not to burn my bridges, but leave things open somewhat. 0 1 2 3
15. I tried not to act too hastily or follow my first hunch. 0 1 2 3
16. I tried to keep my feelings from interfering with other things too much. 0 1 2 3
17. I went over in my mind what I would say or do. 0 1 2 3
18. Talked to someone to find out more about the situation. 0 1 2 3
19. Talked to someone who could do something concrete about the problem. 0 1 2 3
20. I asked a relative or friend I respected for advice. 0 1 2 3
21. Talked to someone about how I was feeling. 0 1 2 3
22. Accepted sympathy and understanding from someone. 0 1 2 3
23. I got professional help. 0 1 2 3
24. Criticized or lectured myself. 0 1 2 3
25. Realized I brought the problems upon myself. 0 1 2 3
26. I made a promise to myself that things would be different the next time. 0 1 2 3
27. I apologized or did something to make up. 0 1 2 3
28. Wished that the situation would go away or somehow be over with. 0 1 2 3
29. Hoped a miracle would happen. 0 1 2 3
30. Had fantasies about how things might turn out. 0 1 2 3
31. Tried to make myself feel better by eating, drinking, smoking, using drugs or medication, and so forth. 0 1 2 3
32. Avoided being with people in general. 0 1 2 3
33. Refused to believe that it had happened. 0 1 2 3
34. Took it out on other people. 0 1 2 3
35. Slept more than usual. 0 1 2 3
36. I knew what had to be done, so I doubled my efforts to make things work. 0 1 2 3
37. I made a plan of action and followed through with it. 0 1 2 3
38. Just concentrated on what I had to do next - the next step. 0 1 2 3
39. Changed something so things would turn out all right. 0 1 2 3
40. Drew on my past experiences; I was in a similar position before. 0 1 2 3
41. Came up with a couple of different solutions to the problem. 0 1 2 3
42. Changed or grew as a person in a good way. 0 1 2 3
43. I came out of the experience better than I went in. 0 1 2 3
44. Found new faith. 0 1 2 3
45. Rediscovered what is important in life. 0 1 2 3
46. I prayed. 0 1 2 3
47. I changed something about myself. 0 1 2 3
48. I was inspired to do something creative. 0 1 2 3

Appendix H. Intercorrelation Matrix

	1	2	3	4	5	6	7
1. Fantastic Nightmares							
2. Post-traumatic Nightmares	.41*						
3. Night Terrors	.33*	.37*					
4. Nightmare Intensity	.41*	.37*	.36*				
5. Daily Stressors	.16*	.08	.14*	.20*			
6. Life Stressors	.16*	.18*	.09	.15*	.10		
7. Social Support	-.11*	-.07	-.07	-.22*	-.16*	.11*	
8. Confrontive	.16*	.06	.06	.13*	.25*	.06	.01
9. Distancing	.04	.01	.00	.09	.26*	.04	-.11*
10. Self-controlling	.00	.01	.01	.09	.20*	.06	-.12*
11. Seeking Social Support	.02	.08	.02	.11	.16*	.05	.12*
12. Accepting Responsibility	.06	.07	.10	.18*	.24*	.13*	-.05
13. Escape-Avoidance	.10	.07	.17*	.22*	.41*	.04	-.18*
14. Planful Problem Solving	.07	.07	.14*	.12*	.14*	.05	.16*
15. Positive Reappraisal	.04	.05	.07	.14*	.25*	.04	.09

	8	9	10	11	12	13	14
1. Fantastic Nightmares							
2. Post-traumatic Nightmares							
3. Night Terrors							
4. Nightmare Intensity							
5. Daily Stressors							
6. Life Stressors							
7. Social Support							
8. Confrontive							
9. Distancing	.32*						
10. Self-controlling	.39*	.56*					
11. Seeking Social Support	.51*	.42*	.42*				
12. Accepting Responsibility	.35*	.41*	.40*	.42*			
13. Escape-Avoidance	.48*	.48*	.47*	.47*	.48*		
14. Planful Problem Solving	.37*	.34*	.32*	.43*	.40*	.33*	
15. Positive Reappraisal	.53*	.43*	.40*	.58*	.45*	.50*	.59*

Note. The first three variables constitute the items that were summated to yield the

overall nightmare frequency index while the last eight variables constitute the items that were summated to yield the overall coping index.

* $p < .05$.