

# Sleep-related Violence, Dissociative Experiences, and Childhood Traumatic Events

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The aim of the present study was to test whether a relationship between dissociative experiences and violent behavior during sleep (VBS). The group was composed of 253 male and 129 female undergraduate students. The subjects were interviewed for parasomnias and sleep-related violence by using International Classification of Sleep Disorders (ICSD)-revised criteria. Dissociative Experiences Scale (DES) was also administered to the subjects. The subjects with sleep-related violence had higher mean DES score than those never reported VBS. The subjects with sleep-related violence had higher rates of history of physical abuse than the others. Suicidal attempts and self-mutilating behaviors were also more common among these subjects than the others. There is an association between sleep-related violence, childhood abuse, and dissociative experiences. Dissociative experiences may relate not only to daytime symptoms but also symptoms during sleep. **(Sleep and Hypnosis 2002;4(2):52-57)**

**Key words:** *sleep-related violence, dissociative experiences, parasomnias, childhood traumatic events*

## INTRODUCTION

A violent behavior during sleep includes a broad range of behaviors: self-mutilation, sexual assault, murder attempt, murder and suicide. The violent behavior during sleep (VBS) can be directed to other subjects, to objects, or to self (1). Recently, Ohayon et al (2) reported violent behavior during sleep as 2 % of

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the population. They found that night terrors, daytime sleepiness, sleep talking, bruxism, and hypnic jerks were more frequent in subjects with violent or harmful behavior during sleep than the nonviolent subjects, as were hypnagogic hallucinations, the incidence of smoking, caffeine and bedtime alcohol intake. In 1989, Schenck et al (3) published a clinical and polysomnographic study on 100 consecutive adult patients complaining of sleep-related injury. They identified several disorders as being responsible for causing nocturnal violence: sleepwalking, sleep terrors, REM sleep behavior disorder, nocturnal psychogenic dissociative disorders, nocturnal seizures, obstructive sleep apnea, and periodic limb

movement disorder. There are many neurologic and psychogenic causes of sleep-related violence in the literature (see 1 and 4 for a review).

Parasomnias are a group of undesirable physiological and behavioral phenomena that involve skeletal muscle activity and/or autonomic changes. In persons with parasomnias, sleep and wakefulness are not mutually exclusive, because dissociated elements of REM sleep, NREM sleep, and wakefulness can become admixed or rapidly oscillate to produce abnormal nocturnal twilight states with behavioral dyscontrol. These disorders can cause sleep-related injuries and promote psychological distress from repeated loss of self-control during sleep (5). They usually represent bizarre and dangerous manifestations and are often misdiagnosed and inappropriately treated.

Recently, nocturnal dissociative disorders had been suggested as a type of parasomnia in the literature. Nocturnal dissociative episodes involve elaborate behaviors that appear to represent attempted reenactments of previous abuse situations (e.g., being choked or punched by a sibling being beaten or sexually abused by a parent) (5). These episodes may involve violent behavior during sleep. They also may be associated with other parasomnias such as sleepwalking and sleep terrors. The patients also had self-mutilating behaviors, such as genital cutting, self-inflicted burning, and punching through windows (6). In the present study, first, we examined the association between sleep-related violence, parasomnias, and dissociative experiences. We also examined the role of dissociative mechanisms in the association between sleep-related violence and suicidal or self-mutilating behaviors. Since parasomnias and dissociative disorders are relatively common in adolescents and young adults, we selected a sample from the undergraduate students.

## METHODS

Individuals from a representative sample of

subjects consisting of undergraduate students in the Yüzüncü Yil University at Van City were included in the study. All students were volunteers and recruited through local announcement for the study. The subjects gave written informed consent prior to their participation in the study. Subjects with organic mental disorders, mental retardation, alcohol and substance abuse, current and past history of psychotic and mood disorders were excluded. The group was composed of 253 males and 129 females. The mean age was  $20.9 \pm 1.8$  years for males and  $20.6 \pm 1.8$  for females.

All subjects were interviewed for sleep-wake schedule, the history of suicidal attempts, aggressive acts to the others, self-mutilating behaviors, and alcohol and substance abuse. The subjects were also questioned about childhood traumatic events. The history of childhood physical or sexual abuse, paternal loss, and paternal separation were obtained. The subjects were interviewed for parasomnias and sleep-related violence by using International Classification of Sleep Disorders (ICSD)-revised criteria (7). We focused on sleepwalking (SW), sleep terror (ST), sleep-related eating (SRE), and sleep-related dissociative hallucinations (SRDH) involved sexual traumas or rape. On the other hand, nocturnal dissociative episodes were suggested as a diagnostic category and considered in differential diagnosis of sleep-related injury (see 4 for a review). Owing to examining the relationship with nightmare disorders in a previous study (8), we did not consider this disorder in the present study. Because the minimum diagnostic criteria for REM sleep behavior disorder is based on certain polysomnographic abnormality and videotaped behavioral abnormality (9), we did not evaluate this diagnosis. Thus, we focused on only NREM sleep parasomnias in the study. All interviews were conducted by two of us (MYA and HK). To provide interrater reliability between two clinicians, we used the kappa statistic. Kappa values higher than 0.75 may be regarded as

**Table 1. Sleep-related Violence, Dissociative Experiences, and Childhood Traumatic Events**

	Subjects with VBS (No=94)		Subjects without VBS (No=288)		t	p
	Mean	SD	Mean	SD		
Age	21.1	1.6	20.7	1.9	1.31	ns <sup>1</sup>
DES score	35.6	14.9	21.4	13.8	8.60	<0.001
	No	%	No	%		p <sup>2</sup>
Male/Female	72/22	28.5/17	181/107	72.5/83		0.017
SW	12	12.7	13	4.5		0.08
ST	33	35.1	41	14		<0.001
SRDH	52	55.3	79	27.4		<0.001
SRE	27	28.7	25	8.6		<0.001
Sexual abuse	10	10.6	16	5.5		ns
Physical abuse	25	26.5	35	12.1		0.02
Paternal loss	6	6.4	27	9.3		ns
Paternal separation	11	11.7	23	7.9		ns
Self-mutilating behavior	38	40.4	35	12.1		<0.001
Suicide attempt	34	36.1	35	12.1		<0.001

<sup>1</sup>nonsignificant<sup>2</sup>Fisher exact test

excellent interrater agreement, those from 0.40 to 0.75 as fair to good agreement, those below 0.40 as poor agreement (10). In the present study, when the interrater reliability was examined, there was an excellent agreement ( $\kappa=0.77$ ).

The Dissociative Experiences Scale (DES) (11) is a 28-item self-report scale assessing the frequency of dissociative experiences. Scores range from 0 to 100, and an average score is usually reported. The scale contains a variety of dissociative experiences, many of which are normal experiences. The DES has very good validity and reliability, and good overall psychometric properties. The Turkish version of the scale has reliability and validity (12) as high as those of its original form.

The statistical Package for the Social Sciences (SPSS), release 10 was used for statistical analysis. Data analyses were performed by using Student's t test, chi-square test, and Fisher exact test, when appropriate. The tests were two-tailed.

## RESULTS

Ninety-four subjects reported VBS at least once in past year. All of subjects with VBS described their violent behaviors as potentially harmful for

themselves or their bed partners. As seen Table 1, there was no age difference between the subjects with and without VBS. Of subjects with VBS, 72 (28.5%) were males and 22 (17%) were females. The rate of males was higher in subjects with VBS than those others (Fisher exact test;  $p=0.017$ ). Of the 94 subjects with VBS, 12 had also SW, 33 had ST, 52 had SRDH, and 27 had SRE and all of parasomnias were more common than those without VBS (Fisher exact test;  $p=0.008$ ;  $p<0.001$ ;  $p<0.001$ ;  $p<0.001$ , respectively). The rates of physical and sexual abuses were higher in subjects with VBS than those others but only rate of physical abuse was significantly differ (Fisher exact test;  $p<0.001$ ). These subjects also had higher rates of self-mutilating behavior and suicide attempt (Fisher exact test;  $p<0.001$ ). The mean DES score of subjects with VBS was higher than the others ( $35.6\pm 14.9$  vs  $21.4\pm 13.8$ ; Student's t test;  $t=8.60$ ,  $p=0.001$ ).

## DISCUSSION

The present study is the first, to our knowledge, that examines the association between sleep-related violent behavior and dissociative experiences. We found a significant relationship between these two phenomena.

The subjects with VBS also reported more frequently childhood traumatic events, particularly physical and sexual abuse than the other subjects. VBS is usually caused by neurological conditions in adult or elderly population whereas psychogenic causes are more prominent in young population (2,4,6). Our sample represents a young population and the present findings suggest that sleep-related violence may be related to dissociative mechanisms, particularly in this population.

The findings related to SW and ST relatively well-documented in previous studies. SRE is relatively a new category. SRE can arise from any sleep stage with variable dissociation of consciousness from the eating behavior, and is most frequently associated to SW (4). One third of the patients suffer injuries from their confused and impulsive cooking, food preparation, and eating behavior (13). SRE is a heterogenous syndrome and clearly different from daytime eating disorders. In the present study, we also described SRDH involved sexual traumas or rape. In our opinion, these hallucinations, tactile type, represent a pathological dissociation in the perceptual domain. They are also considered as hypnopompic or hypnogogic hallucinations. Although hypnotic capacity has not been assessed in our subjects, these hallucinations may also be considered as a hypnotic phenomena. They may be a pathological analog to hypnotically induced hallucinations such as flashbacks in post traumatic stress disorder. In addition, the subjects with SRDH had reported physical and sexual abuse in their childhood. Thus, we suggest SRDH is a dissociative condition and may result from subjects' spontaneous and unrecognized abuse of self-hypnosis as a dissociative defense mechanism.

There is evidence strongly suggesting a relationship between NREM parasomnias, particularly SW and dissociation-related disorders. Sleep researchers have described SW as "a state of dissociated consciousness in which phenomena of sleeping and waking states

combine" (14). During SW episode, complex behaviors such as eating, talking, and violent acts may be performed. The dissociation of conscious awareness of behavior seems to reflect a relative suspension of higher cortical activity with release of lower subcortical functions (15). In the present study, we suggest that there is a strong association between VBS, NREM parasomnias, and childhood traumatic events.

In our opinion, nocturnal dissociative disorders are one of cornerstones in understanding relationship between sleep disorders and dissociative phenomena. Nocturnal dissociative episodes usually involve elaborate behaviors that appear to represent attempted reenactments of previous abuse situations (eg, being choked or punched by a sibling, being beaten or sexually abused by a parent). Sexualized behavior (eg, pelvic thrusting, rocking) is not uncommon and is often paired with defensive behavior (eg, trying to push or ward someone off, with congruent verbalization, such as "Don't do that, you are hurting me, get away"). Onset of nocturnal dissociative disorders may be sudden or gradual, and the course is chronic. Affected subjects usually have a history of repeated physical or sexual abuse in childhood that may extend into adolescence and adulthood (5).

Sleep may play a key role in daytime dissociative disorders. Sleep may facilitate the transition from one personality to the other one, and two or more personalities may interact in the oneiric state. Transitions from one personality to another during sleep and the sudden shifts of states that induce the dissociative behavior, suggest a parasomnias phenomenon (4). In our study, both SRDH and VBS were strongly associated with higher DES scores. On the other hand, the findings suggest that some dissociative conditions may simply intrude upon sleep states as they do waking ones. Recently, Schenck and Mahowald (5) suggested that, in persons with parasomnias, sleep and wakefulness were not mutually exclusive, because dissociated elements of

REM sleep, NREM sleep, and wakefulness could become admixed or rapidly oscillate to produce abnormal nocturnal twilight states with behavioral dyscontrol.

In the present study, we also demonstrated a close relationship between VBS and self-mutilating and suicidal behaviors during day. Although an association between violence during sleep and during day have been systematically studied previously, we suggest dissociative mechanisms play an important role in this association. Indeed we also found that persons with self-mutilating behaviors had higher DES scores than those without. Self-mutilation reflects a pathological dissociation. A high incidence of a variety of self-injuries behaviors, including cutting, hitting, burning, stabbing, hair pulling, and neurotic excoriations among persons with dissociative disorders (16). In addition to daytime, self-mutilation behaviors; such as genital cutting, self-burning, and punching through windows were documented in patients with nocturnal dissociative disorders during sleep (6). Our findings confirmed the fact that dissociation was a hallmark of self-mutilation during day and sleep. Suicidal tendency in persons with VBS or parasomnias is relatively newer finding. An association between suicidal behavior and sleep disorders have been demonstrated previously by us (17,18), it is reasonable to suggest that dissociation may be important in suicidal tendency in our subjects. Dysphoria is a hallmark of borderline personality disorder, and this often associated with the initiation of self-mutilating and suicidal behaviors. Comorbidity with borderline features is high in patients with dissociative disorders, particularly dissociative identity disorder, although personality characteristics were not documented by using structured interviews for personality disorders. Moreover, both borderline patients and dissociative disorders report history of sexual or physical abuse.

There are some limitations in this study. First, diagnoses were made only on the basis of findings from the clinical interview and

polysomnographic was not performed. Nocturnal dissociative episodes and violent behaviors during sleep were not monitored visually. Second, we used only DES for detect dissociative experiences but a clinical interview was not based for dissociative disorders such as dissociative identity disorder, dissociative fug, and dissociative amnesia. Third, we did not assess hypnotizability in subjects. It was expected that more hypnotizable subjects had higher DES scores and more experienced SW episodes than those low hypnotizable ones. Fourth, we did not use a personality inventory or structured interview schedule for assessing personality, particularly borderline personality disorder. In addition, the subjects were administered a depression or an anxiety instrument. It may be better to understand relationship between dissociative experiences and sleep-related violence. Finally, the subjects in the present study, were not questioned about aggressive acts towards others during the day. An investigation of the relationship between violent behaviors during the day and during sleep may be interesting.

In summary, early traumatic experiences such as childhood physical or sexual abuse may result in development of dissociative symptomatology. Dissociative experiences may related not only to daytime symptoms but also to symptoms during sleep. Sleep-related violent behaviors and sleep-related dissociative hallucinations may combine as sexualized behavior and are often paired with defensive behavior. SW, ST, and SRE are related to suicidal and self-mutilating behaviors. There is a close association between sleep-related violence, childhood abuse, and dissociative experiences. As stated by Schenck and Mahowald (5) parasomnias cause sleep-related injuries and promote psychological distress from repeated loss of self-control during sleep. Dissociation play an important role in sleep-related behavior as well as perception, behavior, memory and identity. Future research will focus on dissociated states of wakefulness and sleep.

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