

# EPIDEMIC DISSOCIATION AMONG SCHOOL CHILDREN IN SOUTHERN THAILAND

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## ABSTRACT

*In September 1993 an outbreak of illness at a school in the south of Thailand suddenly afflicted 32 girls aged 9-14 years. A study of epidemiologic and clinical aspects of the outbreak was done. Rapid resolution of symptoms, the absence of abnormal physical findings and failure to detect an organic cause indicated mass hysteria. The symptoms were dissociative in nature and in many cases resembled possession states. Of the affected students, 44% received psychiatric diagnoses. Higher rates of psychiatric diagnoses and stressful life events were found in girls with severe symptoms. Stresses in the community, cultural beliefs, individual psychopathology and group dynamics played major roles in the development of this epidemic.*

## INTRODUCTION

Dissociation is defined in the *DSM-IV* as a disturbance or alteration in the normally integrative functions of identity, memory, or consciousness (American Psychiatric Association, 1994). It is recognized that some dissociative behavior in childhood may be normative and that this behavior decreases as the capacity of psychic integration in the individual increases and more mature defenses (such as repression and

sublimation) develop (Garcia, 1990).

Studies of dissociative phenomena have grown tremendously in recent years. While most studies were done in patients with multiple personality disorder, a chronic form of dissociation (Coons, Bowman, Kluft, & Milstein, 1991; Hornstein, 1992; Kluft, 1984; Kluft, 1991; Putnam, Guroff, Silberman, Barban, & Post, 1986; Ross, Norton, & Wozney, 1989;), several other investigators have also reported findings on other types of dissociative disorders (Coons, 1990; Steinberg, 1991). Numerous investigations suggest that dissociation occurs most commonly in connection with severe trauma. Some experts consider dissociative reactions to be a common response to such trauma, serving to provide some degree of insulation against overwhelming stress (Putnam, 1985; Spiegel, 1991; Putnam et al., 1986). Relying on this defense, however, may render the person vulnerable to rather than protected against subsequent revictimization (Kluft, 1990).

In many societies and cultures acute dissociative reactions occurs commonly. Examples are meditative trance, spirit possession states, and some culture-bound syndromes, such as the Puerto Rican Syndrome, in which dissociation constitutes a core phenomenon (Mehlman, 1978). Although in most cases dissociative reactions occur in individuals, they can occur in groups in the form of epidemic or mass hysteria. Such cases have been reported in some countries such as Malaysia, Zambia, and Thailand (Dhadphale & Shaikh, 1983; Suwanlert, 1976; Suwanlert, Visuthikosol, Chowanachinda, Tapanya, & Chaiyasit, 1979; Tan, 1966; Teoh, 1973). In Thailand episodes of possession states are reported periodically in the local newspapers.

In September of 1993, a Thai newspaper published a report of spirit possession in more than 30 girls in a rural elementary school in the southern part of Thailand. (In this article spirit possession will be defined as a condition in which an individual acts as if he or she were under the control of another entity, usually the spirit of a deceased relative or famous person and deity. It is usually associated with amnesia and stereotyped movements beyond one's control. It is a common phenomenon in cultural activities and religious experiences in the north, the northeast, and the south of Thailand.) The possession states created chaos in the community. School had to be closed, examinations were postponed, and many families made plans to leave the area. This

prompted the Ministry of Public Health and the Department of Psychiatry of Chulalongkorn University to send a team to investigate the problems.

This article reports on the results of the investigation of this spirit possession epidemic in Southern Thailand. It is primarily descriptive, with the aim of studying the epidemiologic aspects and the clinical phenomena of the epidemic.

## METHOD

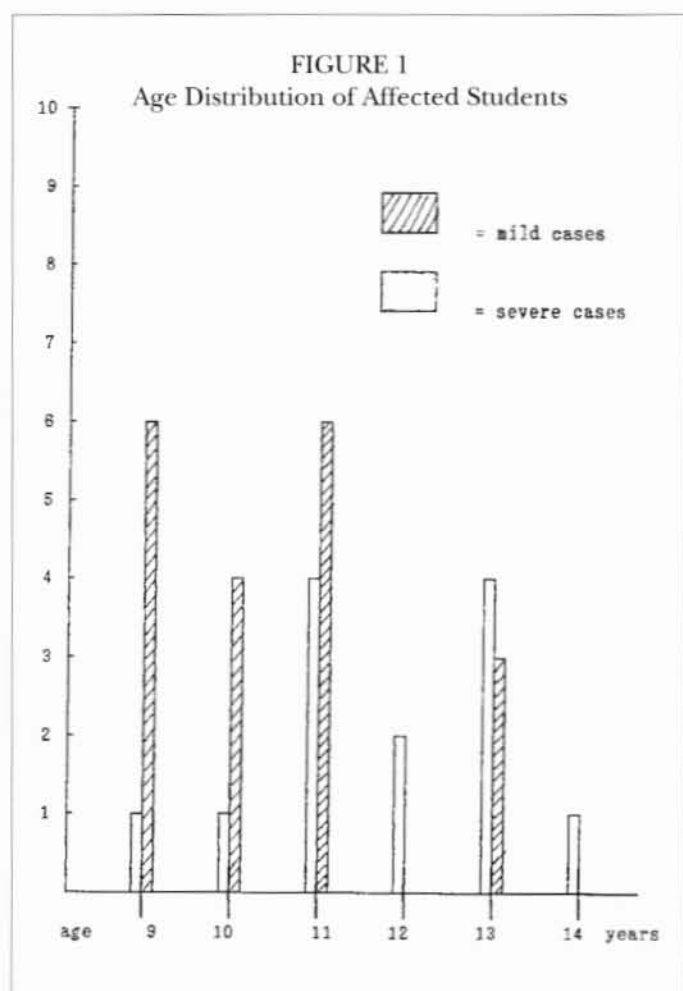
### Description of the Epidemic

The epidemic of spirit possession occurred in the Thasala district, an agricultural area near Nakhon Si Thammarat, the second largest city in the south of Thailand. The city is 487.5 miles from Bangkok and has an area of 9942.5 square kilometers. Its population is 1,477,417. The average annual income is 16,859 baht (equivalent to US \$675) per capita and is derived primarily from agriculture, especially rubber trees. Eighty-five percent of the population is Buddhist. There are 929 elementary schools in the region. In the last five years, two episodes of mass hysteria have occurred in the city. The first, in May 1991, involved six school girls. The second, in September 1991, involved 38 girls.

### The Interviews

The authors visited the school where students experienced spirit possession, and inspected both the school and the surrounding area. The school was located in a mountainous area with woods nearby. There are two spirit houses in the school yard. (Spirit houses are miniature dwellings where departed spirits are believed to reside; they play an important role in Thai culture.) A thorough examination of the school grounds and buildings revealed no exposure to environmental toxins. Food and water samples from the school were examined for possible contamination. The results of these examinations were negative; the Department of Epidemiology of the Ministry of Health concluded that the outbreak was not due to a physical or infectious agent.

The school staff, the local residents and community leaders were interviewed regarding the onset and spread of the epidemic. Interviews also focused on cultural aspects and stressors in the community. All students experiencing spirit possession were interviewed by the first author with the written consent of their parents. In addition, the parents were interviewed in order to obtain a history of psychiatric, medical or developmental problems, family and peer relationships, the presence of specific academic and/or behavioral problems of the child, the psychosocial history of the family, and current stressors. Depressive symptoms of each child were examined by using the Thai version of the Children's Depression Inventory (CDI) (Trangkasombat, 1991). The CDI is a 27-item self-rated symptom oriented scale. It has acceptable test-retest reliability and concurrent validity. The scale is sensitive to changes in depression over time



and is an acceptable index of the severity of depression. It has been translated into many languages. The Thai version of the CDI (Kovacs, 1992), translated with permission, was tested and used in various population. It was found to have good sensitivity, specificity and accuracy (78.7%, 91.3%, and 87.1%, respectively). A score of 15 or above indicates significant depression (Trangkasombat, 1991).

### Subjects' Characteristics

Of the 373 students enrolled in the Thasala Elementary School (208 boys and 185 girls), 32 students experienced symptoms of possession. All of the students demonstrating possession experiences were girls. The attack rate was 8.6% of the school population, or 17.3% of the female students. The subjects ranged in age from 9 to 14 years, with a mean age of 11.0 years (S.D.=1.5). Sixty-nine percent were below age 12 (figure 1). Grades 1 through 8 were represented in the school. The outbreak affected students from grades 3 through 8, except for grade 6. The attack rate was highest in grade 5. (Table 1)

Table 2 gives demographic information on the subjects who experienced possession symptoms. Most children were

TABLE 1  
Attack Rates According to Grade Level

Grade Level of Girls	Total Number	Number of Girls who Developed Symptoms	Attack Rate %
1	22	0	0
2	23	0	0
3	21	7	33.3
4	18	5	27.7
5	20	12	60.0
6	17	0	0
7	15	5	33.3
8	11	3	27.7

first-born, from nuclear families with two to three children. Most of the parents had completed only primary-level schooling. Nineteen percent of students came from families in which parents were separated or divorced, or one of the parents was deceased. All of the students were Buddhist. Forty percent of them held prominent positions in their class; e.g., they were leaders of the students' group or a school athletic team.

## RESULTS

### Symptoms

The frequencies of symptoms reported by the subjects are listed in Figure 2. In cases with amnesia, data were obtained from teachers and parents. The most frequent symptom, headache, occurred in 91% of the subjects. Three-fourths of the students were described as having fainting spells. Almost 70% had visual hallucinations and auditory command hallucinations; e.g., a vivid picture of an old woman dressed in a red, old-styled costume. Most students reported that this woman, believed to be a spirit, approached them and commanded them to come with her.

Twenty-eight students were able to describe what happened or how they felt just before the attack became full blown. The first symptoms experienced by the students were somatic in nature, i.e., headache (71%), dizziness (18%), heart palpitations (4%), shaking (4%) and weakness of the extremities (4%). Most students were amnesic regarding what had happened during the attack, except for their hallucination of the female spirit.

We were able to observe episodes of spirit possession on

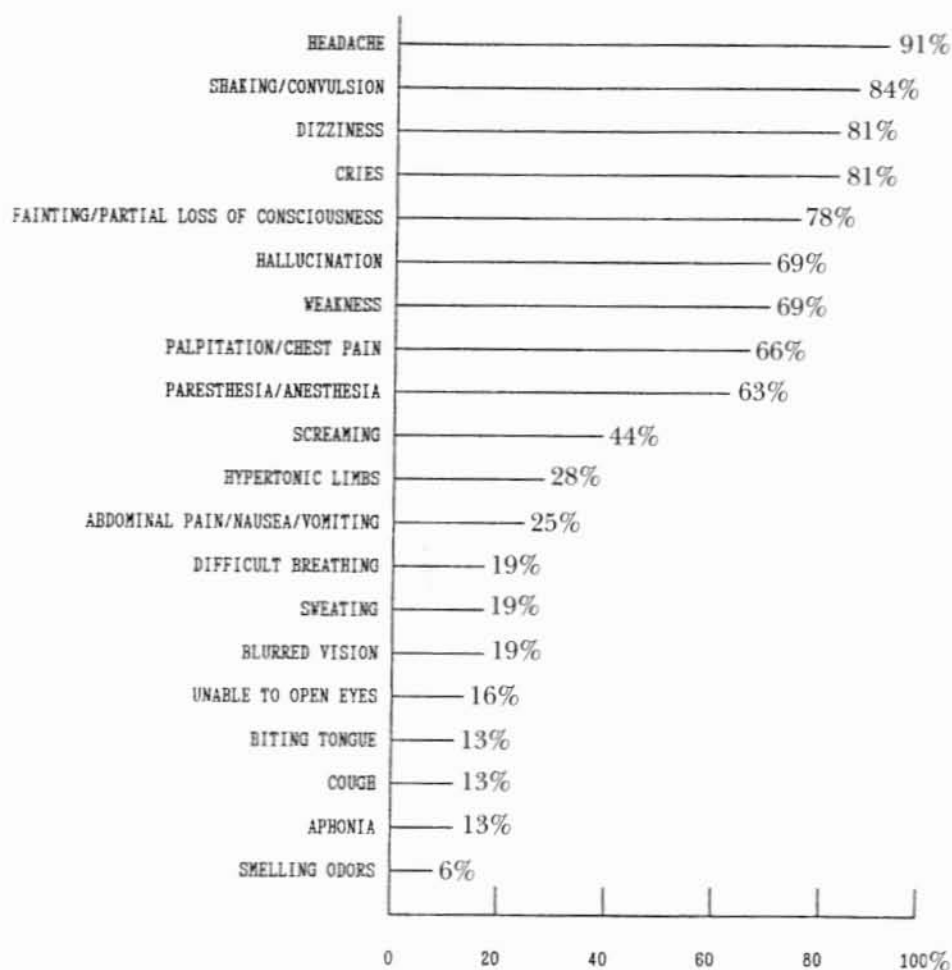
TABLE 2  
Demographic Characteristics of 32 Cases

	N	%
<b>Age (Years)</b>		
9	7	22
10	5	16
11	10	31
12	2	6
13	7	22
14	1	3
<b>Number of Siblings</b>		
1	1	3
2-3	21	66
≥4	10	31
<b>Birth Order</b>		
Only child	1	3
First born	19	59
Middle child	9	28
Youngest	3	9
<b>Marital Status of the Parents</b>		
Divorce/separation	5	16
One parent deceased	2	6

two occasions. The first took place when our team visited the school to meet with parents. The meeting was held in one classroom. While we were explaining the epidemic to the parents, the "illness" started in the adjacent room where the students were gathered. One girl screamed and fainted. A few minutes later she developed seizure-like movements of arms and legs. While her friends tried to calm her down another girl screamed and fainted and developed the same abnormal movements. The rest of the students were frightened. Many tried to calm their friends by holding them but the more they tried, the more severe the movements became. Within 10 minutes, four girls were screaming and the entire class was in chaos.

On the second occasion, we were able to observe how the symptoms developed. When the first author was con-

FIGURE 2  
Symptoms in 32 Cases: N=32



ducting the psychiatric interview of A (a girl who had reported more than 30 attacks), B's mother interrupted the interview, stating that her daughter did not feel well. The interviewer then evaluated B and found her to be mute and in a trance-state with eyes wide open. She was brought into the room and seated in an arm chair. She was not responsive to verbal stimuli, but responded to being touched by moving away. A few minutes later she began to cry. This continued for 20 minutes. After she regained her consciousness she tried to stand up, but still appeared weak and confused. Half an hour later she became "normal," playing and laughing with her friends but unable to remember what had happened.

While B was in the room, A, who was sitting at the other side of the room, put her face against the table and started to have "fits." Her movement looked as if she were struggling with someone. She screamed and shouted, "No, No, I won't go," many times. She did not respond to any consolation. After 15 minutes of fits she opened her eyes and looked con-

fused. The only thing she remembered was "an old woman, dressed in red, trying to get me."

C was the last girl who appeared to experience dissociative symptoms during the interview. During the first 15 minutes of the interview she answered the questions with relevant responses. Then, all of a sudden, her smiling face became blank. She stared as if in a trance. After a few minutes tears trickled from her eyes. Then she screamed and began to have seizure-like movements of arms and legs. The more her mother tried to comfort her, the more she screamed and struggled. The episode lasted 20 minutes, after which she appeared weak and confused. However, within half an hour she was able to join her friends and resume her regular activities.

From our observation and interview, the following dissociative experiences were noted:

- 1) alteration of consciousness (staring, appeared in a daze, fainting spell, mute);
- 2) visual and auditory hallucinations of a woman dressed in red;
- 3) struggling, trying to escape, screaming, fits;
- 4) amnesia for the entire episode.

The syndrome typically began in one girl and rapidly spread to other girls. Frequently it occurred in the morning when students sang the national anthem or during class. The number of students who developed symptoms each day varied from one or two girls to as many as 20, when ceremonies were held. The illness was frequently precipitated by hearing a scream or seeing a friend faint. Six children (19%) had more than 30 attacks during the period of the epidemic. There were some variations of this clinical manifestation. That is, some girls did not develop full symptoms. Some only fainted. Some went into a trance without screaming. Physical examination findings were normal, and for most of the subjects, symptoms resolved within one hour.

### *The Index Cases*

After a review of each child's symptoms we found that the epidemic was triggered by two girls. The first was a 12-year-old girl in grade 5, who had been ill. One month before the epidemic began she had two to three fainting spells, at home and at school. She had been taken to the hospital once, complaining of abdominal pain. The examination was unremarkable. She was diagnosed as having anxiety and was treated with benzodiazepine. At the beginning of September, she fainted in class in the morning when students gathered to sing the national anthem. Some students reported that she appeared very pale and they were afraid she was going to die. On psychiatric evaluation she appeared histrionic.

The second girl who appeared to spread the initial rumors and fears of the spirit was a girl in grade 3. She developed fainting spells a few days after the first girl. During the spells, she reported that she saw a female spirit, dressed in red, who threatened to abduct the students as revenge because the school had destroyed her spirit house. On one occasion she was described as being possessed. While in that state she claimed that she was a spirit and commanded the people to build a new spirit house for her. During the psychiatric examination, it became clear that this girl had had many episodes of dissociation prior to the epidemic. She reported recurring experiences of spontaneously going into trances. There were hysterical overtones to her history and symptom descriptions. She gave a vivid, dramatic, and verbose account of her use of self-generated guided imagery to induce trance. "It is easy. I just go into a place in my mind. I think about a peaceful place such as the beach or the forest and then I'm there.

It's so beautiful it's hard to come back." She was deeply involved in her fantasy: "It feels as though it were really happening to me." Sometimes she had the experiences of feeling as though she were standing next to herself and watching herself do something. She was given the diagnosis of dissociative disorder not otherwise specified (DDNOS) and histrionic personality trait. From these central two girls, various observations, conjectures, assumptions, and fears radiated to other vulnerable girls. They rapidly seized upon the idea of the spirit, and psychic contagion began.

### *Psychiatric Evaluation*

Psychiatric evaluations were done one month after the onset of the epidemic. By *DSM-III-R* criteria fourteen children (44%) received Axis I diagnoses, the most frequent of which was adjustment disorder (nine cases). In seven cases the adjustment disorder began after the outbreak. These children were anxious and depressed. The outbreak was very stressful to them. They were afraid that their illness would never stop, that the spirit would take control of them and take them to "another world." Two girls considered killing themselves in order to escape from the stress. Other Axis I diagnoses were dysthymia (one case), major depressive disorder (two cases), overanxious disorder (one case) and dissociative disorder not otherwise specified (DDNOS) (one case). Six girls appeared histrionic (See Tables 3 and 4).

### *Mild and Severe Cases*

The children were classified into two groups according to symptom severity. Mild cases ( $n=19$ ) were defined as those having fewer than 10 attacks during the epidemic and severe cases ( $n=13$ ) were those having 10 attacks or more (Figure 1). Table 5 shows the comparison between the two groups. Children with severe symptoms were significantly older and had a significantly higher rate of Axis I diagnoses ( $p=0.01$  and  $0.02$  respectively). Hallucinations and histrionic personality trait were more frequent in the severe group than in the mild group but the difference was not statistically significant. The severity of depressive symptoms in both groups was measured by using the Children's Depression Inventory (Thai version). The average CDI score of the severe group was significantly higher than that of the mild group. Stressful events were found in 22 cases (69%). More subjects in the severe group experienced stressful events, as compared with the mild group (84.6% and 57.9% respectively). Besides stressful family life, these children had frightening experiences, such as witnessing the death of a person and viewing dead bodies in funerals.

### *Environmental Stressors*

A review was conducted of the stressors which might have precipitated the epidemic. It was found that there were many stressful incidents and conflicts between the school and local residents prior to the epidemic. In February, 1993,

TABLE 3  
 Characteristics of Mild Cases: N=19

Case Number	Age (Years)	Number of Attacks	Hallucination		Stressful and/or Traumatic Events
			During Attack	Axix I Diagnosis	
1	9	1	-	No diagnosis	-
2	9	1	+	No diagnosis	-
3	9	2	+	Adjustment disorder	-
4	9	3	+	Adjustment disorder	Economic problem, parental violence
5	9	4	+	Dysthymic disorder	Parental violence, physical abuse, parental drug abuse, mother anxious, witness death of a person
6	9	7	-	No diagnosis	-
7	10	1	+	No diagnosis	-
8	10	2	-	No diagnosis	Father died, anxiety disorder in mother, viewing dead body in funeral
9	10	2	-	Adjustment disorder	Parental fight
10	10	2	+	No diagnosis	Congenital anomaly
11	11	1	-	No diagnosis	Father alcoholic, mother depressed, witness death of a person
12	11	1	-	No diagnosis	-
13	11	2	+	Adjustment disorder	Moved to a new school
14	11	3	+	No diagnosis	-
15	11	3	-	Adjustment disorder	Witness death of a friend
16	11	8	+	No diagnosis	Economic problem, mother anxious, child saw ghost
17	13	3	-	No diagnosis	-
18	13	4	+	Dissociative tendency	Economic problem, saw dead body
19	13	5	+	No diagnosis	Divorce, saw dead body

TABLE 4  
Characteristics of Severe Cases: N=13

Case Number	Age (Years)	Number of Attacks	Hallucination	Axix I Diagnosis	Stressful and/or Traumatic Events
			During Attack		
1	9	> 30	+	Dissociative disorder	-
2	10	> 12	-	Adjustment disorder	Moved to a new school
3	11	12	+	No diagnosis	Parental fight, saw dead body
4	11	> 30	+	Anxiety disorder	Parents separated, witness death of a person
5	11	30	+	Histrionic trait	Parental fight, witness death of a person
6	11	30	+	Adjustment disorder	Father died at age 8, witness death of a person
7	12	10	+	Adjustment disorder	Economic problem, viewing dead body in funeral
8	12	> 30	+	Histrionic trait	Witness death of a friend
9	13	> 10	+	Adjustment disorder	Father alcoholic
10	13	15	-	No diagnosis	Anxiety disorder in father
11	13	25	+	Major depressive disorder	Witness death of a person
12	13	30	+	Major depressive disorder	Father alcoholic, parental fight, witness death of a friend, witness death of a person, child herself in a car accident
13	14	10	+	No diagnosis	-

seven months before the outbreak, two school boys had died in a car accident on their way to an academic contest held in another city. Many students, especially those in the accident, were frightened and mourned the loss of their friends. A few weeks after the accident a spirit house was built at the entrance to the school. In Thai culture, there is a strong belief that when a person dies, the spirit will wander around, waiting for reincarnation. People build a small house on their land so the spirit has a place to reside. This spirit house

constantly reminded students of their loss and their fear of death. In April, an old school building cherished by the local residents was torn down by the decision of the school committee, without approval from the community in order to build a new school building. The spirit house of that building was also relocated. This led to a conflict between the school and local people. At the end of August the conflict escalated into physical fight between a teacher and the father of one of the students.

**Intervention**

At the beginning of the epidemic, a prayer ceremony was held to exorcise the spirit. Mediums were invited to prophesy the necessary actions to restore peace to the community. However, this proved to be ineffective, and more students developed symptoms. The investigating team then held a meeting with parents and the school staff. The meeting had two purposes: 1) to confirm that there were no serious physical problems, insofar as no abnormalities were found in the physical examinations of the children; and 2) to educate them about the nature of the children's episodes, and about what they could do to improve the situation.

It was explained to the school and local residents that the illness had a psychological basis; that is, these symptoms were an expression of severe anxiety. Since we observed that during the trance state the child developed severe seizure-like movement when being touched, we advised them that when the episode started the parents and the teachers should isolate the child and refrain from touching her. They should bring her to the quiet area and prevent her from hurting herself. Gatherings of students were discouraged because the symptoms would spread rapidly within a group and it would be very difficult to control the situation. Ceremonies of any kind would also create a great deal of anxiety in the students since they served to confirm that the epidemic was related to some supernatural power over which humans had no control. This would lead to increased anxiety and a sense of helplessness, and the epidemic would get worse.

At the interview, the students were individually told by the investigating team that it was improbable that spirits actually caused their problem. They were assured frankly that it seemed that they had become frightened and nervous because of their friends' tragic accident. The vivid account they were given of the illness had led them to suppose that they might be similarly affected. This explanation was accepted with some relief. Children who had had multiple attacks and suffered severe anxiety were treated with benzodiazepines.

All interventions were based on good rapport with the local residents. The team was careful not to make them feel that their belief in spirits was challenged. Because the school and the residents were in conflict, we tried to be neutral and not to make judgments regarding the chaos in the community.

The epidemic continued from September through November, 1993. The frequency of attacks was highest dur-

TABLE 5  
Comparison Between Mild and Severe Cases

	Mild (N = 19)	Severe (N = 13)	P
Mean age in years (S.D.)	10.5 (1.4)	11.8 (1.4)	0.01*
Hallucination (%)	58	85	0.14*
Axis I diagnosis (%)	32	62	0.02
Histrionic trait (%)	11	31	NS*
Mean CDI score (S.D.)	10.4 (6.4)	16.7 (7.7)	<.05
Stressful/traumatic life events (%)	57.9	84.6	NS*

\* Fisher's exact Test

ing the first two months. In the third month episodes were sporadic. Four months later the level of depression measured by the Thai version of the CDI decreased in both groups. The mean CDI score of the mild group was 10.5 (SD=8.7) and of the severe group was 9.3 (SD=7.3).

**DISCUSSION**

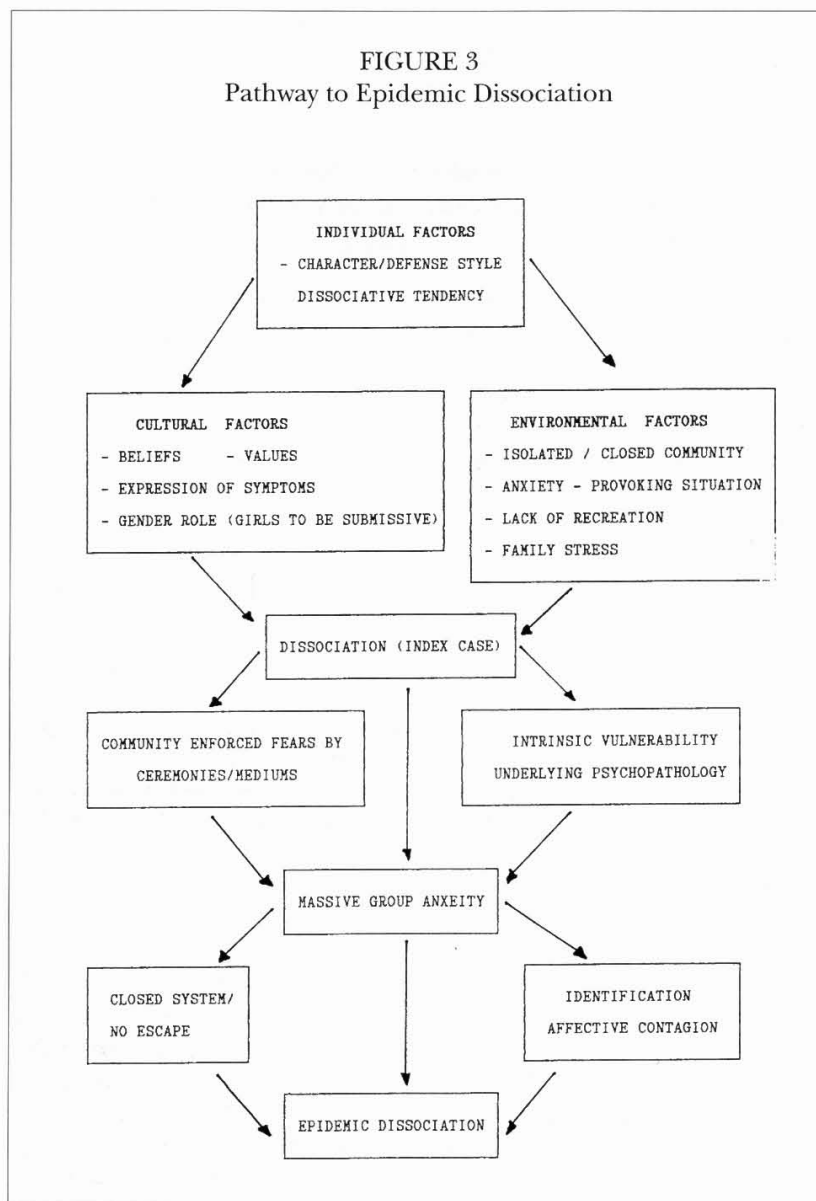
The description of the epidemic, its undemonstrable contagious quality, the exclusive affliction of females, the floridity of the girls' polymorphous symptoms associated with the scarcity of physical signs, the transmission of symptoms by sight and sound, and the minimal morbidity with rapid resolution of symptoms are all indices suggesting a psychological basis for the syndrome described in this report.

Various manifestations of mass hysteria or mass psychogenic illnesses have been reported. Mostly these phenomena take the form of physical symptoms such as fainting, hyperventilation, seizures or abnormal movements, coughing, and less commonly, skin rash (Benaim, Horder, & Anderson, 1973; Goldberg, 1973; Maguire, 1978; McEvedy, Griffith, & Hall, 1966; Moss & McEvedy, 1966; Robinson, Szewczyk, Haddy, Jones, & Harvey, 1984; Ruiz & Lopez, 1988; Wason & Bausher, 1983). Mass hysteria in the form of dissociation as discussed in this study has been reported in some specific cultures such as Zambia, Malaysia and Thailand (Dhadphale & Shaikh, 1983; Suwanlert 1976; Suwanlert, et al., 1979; Tan, 1963; Teoh, 1973). It is considered a culture-bound syndrome, a constellation of symptoms restricted to a particular culture or group of cultures (Westermeyer, 1985).

Many characteristics of this epidemic resemble those in



**FIGURE 3**  
Pathway to Epidemic Dissociation



previous reports (Sirois, 1974). From Sirois' review of 70 outbreaks of epidemic hysteria, most of the outbreaks occurred in a school and almost always involved females exclusively. Most subjects were below 20 years of age, and were from lower socioeconomic classes. However, this epidemic had certain distinctive features. Most episodes in the review involved a group of fewer than 30 individuals and the outbreaks usually ranged between 10 to 20 days. Tan (1963) and Teoh (1973) described mass hysteria in eight and five Malaysian schoolgirls respectively, and Suwanlert et al. (1979) described possession states in 12 girls in northern Thailand. The duration of these outbreaks was less than one month. In this report the outbreak involved a larger group of people and continued for a longer period of time.

As with any other form of mass hysteria which can cause

a lot of confusion and uncertainty regarding management, mass dissociation can bring about fears and anxiety, especially when cultural issues complicate the picture. We will describe the individual and cultural factors, the social context, and the group dynamics that influenced the development of epidemic dissociation.

### Individual Factors

Individual psychopathology plays an important role in the occurrence of the outbreak. In our psychiatric evaluation, 14 cases (44%) received Axis I diagnoses. A higher percentage of these diagnoses was found in severe cases. Most of the problems had to do with mood or internalizing problems, and started before the epidemic. Moreover, severe cases were found to have a higher level of depressive symptoms than mild cases (as measured by the Thai version of the CDI). This finding suggests a relationship between mood abnormality and the development of mass dissociation.

Mass hysteria has been reported to occur in "neurotic" or already suggestible and sensitive individuals, or those with labile or diffuse personal and sexual identities (McEvedy et al., 1966; Sirois, 1974). Hysterical personality traits were reported in a high percentage of subjects (Sirois, 1974; Suwanlert et al., 1979). Although identifying premorbid personality trait is difficult in children, in our report, six girls (19%) had characteristics that are considered histrionic (e.g., low frustration tolerance, egocentricity, emotional lability, and dramatization).

Studies have shown that dissociative potential may be biological and can be found in 8-10% of the normal U.S. population (Spiegel & Spiegel, 1978). In our study, two girls had dissociative tendencies. One was given the diagnosis of dissociative disorder not otherwise specified (DDNOS) since she had recurrent dissociative experiences. The other was not given this diagnosis because the experiences were less frequent.

Moss and McEvedy (1966) suggested that younger girls were more susceptible to the development of mass hysteria but that disturbances were more severe and lasted longer in older girls. The same was true in this epidemic. The attack rate was higher in girls below age 12 years, and those with severe illness were significantly older than those with mild illness.

The high rate of preexisting psychiatric problems in these children, especially the severe cases, contributed to the long duration of this epidemic. It is therefore very important to assess the presence of any underlying psychopathology, and

provide appropriate treatment in order to abort such epidemics quickly.

#### *Cultural Factors*

Some aspects of Thai culture need to be considered. First is the belief system of the community. Belief in spirits and other superstitions are deep rooted within Thai culture. Even though many aspects of Thai life have been changed due to Western influence, these beliefs still exert their influence, especially among rural people whose daily lives are closely intertwined with nature. This population resolves conflicts and expresses emotional concerns through these beliefs. It is therefore common for mental health professionals to encounter cases with symptoms related to belief in spirits; e.g., a psychotic patient with the delusion that he is the incarnation of the spirit, or an anxious woman developing a trance state. Since these symptoms are consistent with shared community beliefs, it may be easy for these symptoms to spread rapidly, and result in mass hysteria.

Secondly, Thai culture discourages direct expression of feelings. Feelings are not discussed in the family. A person then finds it difficult to talk about his or her own problems. Because of this cultural value, individuals with emotional problems are often not recognized. It is only through indirect symptoms, such as somatic complaints, that their feelings can be accepted and understood. In rural area with strong belief in spirits, dissociation may be another culturally acceptable expression of emotional problems.

The fact that females are most vulnerable to the development of dissociation is clearly evident in this epidemic and can be explained by considering a third aspect of Thai culture, that is, child-rearing. In Thai culture, girls and boys are assigned contrasting roles. The cultural message to be submissive and compliant is constantly transmitted to girls through the family, peers, school, and the community at large. Moreover, the free expression of thoughts and feelings, towards adults especially, is inhibited (Amonvivat, Khemmani, & Thirachitra, 1991). In an effort to be accepted, Thai females behave in a way that is consistent with the beliefs and behaviors of people in their communities.

Possession states are reported more commonly in individuals from lower socioeconomic levels and those living in remote areas (Sirois, 1974). Socioeconomic and cultural factors may greatly reinforce each other, given stronger adherence to cultural values by lower classes and rural people. However, conflicts between old and new life styles can not be escaped in a developing country. The destruction of the old school building and the spirit house clearly illustrate this potential for such conflict.

#### *Social Context, Traumatic Experiences, and Group Dynamics*

In the investigation of epidemic hysteria the account must include an analysis of the social context and relevant group dynamics. As in the report by Suwanlert et al. (1979),

many children in this study had had stressful and/or traumatic experiences. Stress in the child's immediate environment, together with personal pathology, make the child more vulnerable to stress in the external environment and render subsequent events more traumatic.

Two characteristics of the Thasala community contributed to the development of dissociation in the children. They are violence and isolation. The history of military violence and the high crime rate in this area have created an atmosphere of fear which was difficult for children to handle. Many children had reported encountering dead bodies on their way to school. Some had witnessed the death of their neighbors or loved ones. A sister of one of the girls was shot to death a few months prior to the epidemic. These life experiences are traumatic and overwhelm the non-dissociative defenses. In this study it was found that children with more traumas developed more severe dissociative symptoms. Although in the United States sexual abuse has been commonly reported in the histories of people who have chronic dissociation (Putnam, 1985; Spiegel, 1991; Putnam et al., 1986), in this study we did not find any children with the histories of sexual abuse.

Living in a remote area where houses are far from each other makes a child feel isolated and lonely. With no recreation or activities to pass the time, children spend long periods of time alone and lost in their own fantasies. For the child who has a biological potential to dissociate, this process may crystallize within the personality and be resorted to in time of stress.

An isolated community, such as Thasala, has a sense of cohesiveness. Conflicts are shared. Shared common conflicts can become activated into an unstable state by an external precipitant. The isolation of the group also prevents the verification of a perceived threat from the outside environment. In Thai culture, a sense of individuality and personal boundaries is not as strong as in western culture. This, in a situation of isolation and overwhelming stress, may lead to "affective contagion" and spreading of symptoms in mass hysteria. (Kluft, 1994, personal communication).

Other important group factors in the development of epidemic hysteria are the group tension and the impossibility to escape (Sirois, 1974). Therefore, to interdict the outbreak one must first defuse the group tension which is usually found in any situation where an isolated group of people are in massive anxiety or feel threatened. The second step is to provide an escape so that a person will not feel overwhelmed. This is accomplished by breaking up the group or any gathering of people and isolating any members of the group who develop the illness. In the meantime it is necessary to provide patient education to dissipate fears and panic and mobilize cognitive resources so that conflicts and the feelings of helplessness can be dealt with in a constructive way. Group counseling may be an important tool to dissipate fears and rumors.

## Intervention

In this epidemic the intervention had two major foci: dealing with individuals who developed the illness and dealing with the group. From the observation of the symptoms and the exploration of the cultural beliefs of the community, we hypothesized that the frightening symptoms of screaming and seizure-like movements in the students were related to fears of abduction by a spirit. With this speculation we advised people not to touch or hold the child because during the attack, the child, in a confused state, might misinterpret the action as the act of the spirit trying to abduct her. This advice proved useful since the attack stopped more rapidly than when the child was touched. As for the group, we isolated the symptomatic child and discouraged any gathering of people in order to reduce group tension and massive anxiety. This, too, proved to be very effective. For example, in grade 6, the teacher sent the students home and instructed them not to gather or even to see the symptomatic child. She explained to them that the illness was caused by "fears in the mind," not by a spirit. She also reassured them that the illness would not happen to them because they were brave and courageous. The result was that the attack rate for grade 6 was zero.

Intervention in a case of mass hysteria has to be prompt, to decrease anxiety in those involved. Group counseling for students, teachers, and local people should be done in order to clarify the problems, resolve the conflicts and demystify the illness (Suwanlert et al., 1979). Public relations in epidemic hysteria is another important issue that must be handled carefully to avoid public misunderstanding (Carter, Mshar, & Burdo, 1989). This is of utmost importance when cultural issues complicate the picture. In the reported epidemic, the investigation and the interventions had been done in well-planned steps and with good rapport between the team and local people. The epidemic ended uneventfully. Most episodes of epidemic hysteria were relatively short and self-limited (Sirois, 1974). In this report, many factors contributed to the prolongation of the epidemic, particularly deep rooted beliefs in spirits, and individual psychopathology.

## CONCLUSION

In conclusion, we hypothesize that the epidemic hysteria in this report is a final common pathway of many factors as shown in Figure 3. Biologically or psychologically susceptible individuals will be more likely, in a situation of severe anxiety, to facilitate the expression of cultural influences symptomatically through the development of dissociative syndromes. We agree with Garcia that dissociation is not always a sign of pathology (Garcia, 1990) especially in an individual with mild symptoms. However, severe and protracted symptoms may point to some pathologic basis in the individual, as found in the severe group in this report.

Through the investigation of this epidemic we concluded that it is of utmost importance to understand the symptoms in various perspectives including biological, psychological, environmental and cultural. Combining these perspectives will provide a more clear and comprehensive picture of the origin and phenomenology of the epidemic and will provide a more integrated basis for the determination of optimal interventions. In addition, systematic investigations of individuals experiencing symptoms of possession using standard instruments such as the SCID-D (Steinberg, 1993), (a semi-structured interview which includes a specific section on possession experiences), will further clarify the phenomenology and the severity of dissociative symptoms in possession states cross-culturally. ■

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