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## Pediatric Intensive Care Nurses : Post-Traumatic Stress Disorder-Like Symptoms

Juanita J. Allen

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## ABSTRACT

### PEDIATRIC INTENSIVE CARE NURSES: POST-TRAUMATIC STRESS DISORDER-LIKE SYMPTOMS

by

Juanita J. Allen

Medical personnel are not only exposed to routine pressures of demanding roles, but research reveals that they can suffer from severe stress related to exposure to critical incidents. These events can overwhelm an individual's ability for emotional adjustment leading to negative symptoms such as emotional numbing, mood changes, estrangement from friends or family, decreased ability to perform or function on the job, development of post-traumatic stress disorder (PTSD) symptoms, loss of work through attrition, and depression. Contact with seriously injured children or children who have died has been shown to constitute just such a critical incident for pre-hospital care personnel (Linton, Webb, & Kommor, 1988). Nurses, as well as emergency physicians and support staff have also been found to experience similar stressors for extended lengths of times (Whitley, 1989; Whitley, Allison, & Gallery, 1991). Horowitz, Field, and Classen (1993) found that differences exist among individuals in the severity of negative responses to similar

stressful life events. Personality was found to be one of the factors contributing to these differences. This study is exploratory in nature and focuses on: 1) identification of PTSD-like symptoms in pediatric intensive care unit nurses, and 2) identification of enduring personality characteristics that may be related to symptoms of PTSD. The results of this study using the Impact of Events Scale indicated that 96% of the participating PICU nurses experience moderate to severe PTSD-like symptomology. Factor C of the 16PF instrument indicated that the personality variable of emotional stability is negatively correlated with PTSD-like symptoms. These results suggest the need for the implementation of programs designed to prevent and/or provide early intervention for nurses who experience PTSD symptoms after critical incidents.

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Graduate School

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PEDIATRIC INTENSIVE CARE NURSES:  
POST-TRAUMATIC STRESS DISORDER-LIKE  
SYMPTOMS

by

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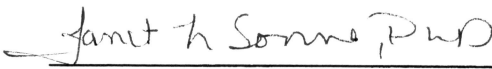
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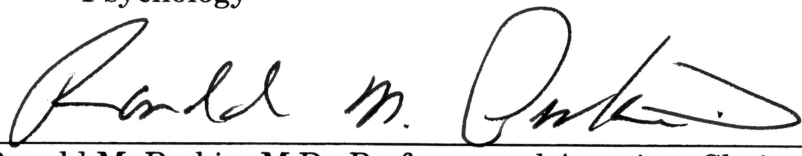
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June 1996

Each person whose signature appears below certifies that this thesis in his/her opinion is adequate, in scope and quality, as a thesis for the degree of Master in Psychology.

  
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### Abstract

Medical personnel are not only exposed to routine pressures of demanding roles, but research reveals that they can suffer from severe stress related to exposure to critical incidents. These events can overwhelm an individual's ability for emotional adjustment leading to negative symptoms including decreased ability to perform or function on the job and development of post-traumatic stress disorder (PTSD) symptoms. Contact with seriously injured children or children who have died has been shown to constitute just such a critical incident for pre-hospital care personnel, nurses, and physicians. Research indicates that differences exist among individuals in the severity of responses to similar stressful life events. Personality was found to be one of the factors contributing to these differences. This study is exploratory in nature and focuses on: 1) identification of potential PTSD symptoms in pediatric intensive care unit nurses, and 2) identification of enduring personality characteristics that may be related to potential symptoms of PTSD. The results of this study using the Impact of Events Scale indicated that 96% of the participating PICU nurses experience moderate to severe PTSD-like symptomology. Scores on the 16PF instrument indicated that the personality variable of emotional stability is negatively correlated with PTSD-like symptoms. These results suggest the need for the implementation of programs designed to prevent and/or provide early intervention for nurses who experience PTSD symptoms after critical incidents.

## Pediatric Intensive Care Nurses:

## Post-Traumatic Stress Disorder-Like Symptoms

Research has indicated that individuals involved in health care occupations may themselves become casualties by occupational exposure to traumatic incidents (Duckworth & Charlesworth, 1988; Dunning & Silva, 1980; Dutton, Smokensky, Leach, Lorimor, & Hsi, 1978). Medical personnel are not only exposed to routine pressures of demanding roles, but research reveals that they can suffer from severe stress related to exposure to critical incidents. These events can overwhelm an individual's ability for emotional adjustment leading to negative symptoms such as emotional numbing, mood changes, estrangement from friends or family, decreased ability to perform or function on the job, development of post-traumatic stress disorder symptoms, loss of work through attrition, and depression. Contact with seriously injured children or children who have died has been shown to constitute just such a critical incident for pre-hospital care personnel including first responders, emergency medical technicians, firefighters, paramedics, and police (Linton, Webb, & Kommor, 1988). Nurses, as well as emergency physicians and support staff have also been found to experience similar stressors and critical incidents repeatedly (Whitley, 1989; Whitley, Allison, & Gallery, 1991).

Medical personnel, as well as other helping service personnel, have been shown to have a high vulnerability to the impact of cumulative and acute occupational stress (Duffy, 1979; Freeman, 1979; Graham, 1981; Mitchell & Bray, 1990). One position hypothesizes that increased exposure to traumatic incidents is positively associated with coping breakdown. Physical or

psychological debilitation can result from sensitization to exposure of too much suffering, pain, and death. Mitchell (1988) found change in emergency worker proficiency with continued exposure to traumatic events. He found that individuals who at one time had demonstrated proficiency during previous stress situations, could decompensate with continued exposure. Moran and Britton (1994) found that emergency personnel workers with longer experience showed greater symptomology and reported longer and more severe reactions to traumatic incidents.

Often, PICU nursing involves a complex interaction of medical, legal, and psychological consequences. Occupational demands in higher-risk professions greatly increase the risk for psychological traumatization (Lifton, 1988). Symptoms found in healthcare personnel after involvement in highly distressful events include recurrent dreams, concentration deterioration, intrusive ruminations, and trauma-related situation avoidance. Emotional reactions also include increased anxiety, fear, grief, guilt, irritability, anger, and depression. Physical reactions include fatigue, aching muscles, dizziness, nausea, ulcers, sleep disturbances, rashes, reduced appetite, high blood pressure, and headaches (Mitchell & Resnick, 1981; Everly, 1990). Such reactions can persist for months or even years.

The classification system of the DSM-IV lists pathological responses which can be caused or precipitated by stressful incidents. The most critical is PTSD which affects coping processes. Many of the symptoms described in this

study are included in the following diagnostic indicators for PTSD in the DSM-

IV. The diagnostic criteria includes:

1. Exposure to (or witness of) an event involving “actual or threatened death or serious injury” to oneself or another.
2. A response involving “intense fear, helplessness, or horror.”
3. The event is reexperienced in any one or combination of the following:
  - a) recurrent, distressing recollections connected with the event,
  - b) recurrent dreams connected with the event that are distressing,
  - c) acting as if or simply feeling like the event was recurring,
  - d) intense distress when exposed to cues symbolizing aspects of the event, or
  - e) physiological reactivity to exposure to these cues.
4. Avoidance of stimuli that is associated with trauma and responsive numbness indicated in at least three of the following ways:
  - a) “efforts to avoid thoughts, feelings, or conversations associated with the trauma”,
  - b) “efforts to avoid activities, places, or people that arouse recollections of the trauma”,
  - c) loss of recall ability involving important trauma aspects,
  - d) decreased participation or interest in other significant activities,
  - e) “feelings of detachment or estrangement from others”,
  - f) restricted affect, or
  - g) a “sense of foreshortened future.”
5. Persistent increased arousal symptoms including at least two of the following:
  - a) sleep disturbances,
  - b) irritability or anger eruptions,
  - c) concentration difficulties,
  - d) hypervigilance, or
  - e) increased startle response.
6. The duration of the symptoms must be at least one month and cause significant clinical distress or reduced functioning capacity.

Post-traumatic stress disorder is considered by many to represent the most disabling and severe type of occupational stress (Everly, 1989). Although normal processes are used by many in dealing with serious

events, 10-30% of individuals develop long-lasting and serious disorders such as PTSD (Kleber & Brom, 1989). Davidson, Hughes, and Blazer (1991) as well as Breslau, Davis, and Andreski (1991) report a PTSD prevalency rate of 1.3-9% in the general population. The diagnosis of PTSD has been reported in police officers, firemen, and among health professionals (Duckworth, 1986; Brett, Spiteer, & Williams, 1988). Reports of PTSD are also accompanied by research dealing with intervention effectiveness. Friedman, Framer, and Shearer (1988) found early detection of posttrauma reactions and early intervention to reduce costs and increase favorable prognoses related to trauma experiences. It is widely recognized that prevention along with early intervention are preferable to traditional treatments for full-blown cases of post-traumatic stress disorder (Duffy, 1978; Butcher, 1980; Yandrick, 1990). If nurses are found to evidence significant PTSD symptomology, this would suggest the need for the implementation of programs designed to prevent and/or provide interventions for nurses with these symptoms. Evidence of significant PTSD symptomology may also indicate a need for an instrument designed to assess PTSD, specifically, in health professionals.

The DSM-IV states that personality variables may influence the development of PTSD symptoms. Horowitz, Field, and Classen (1993) found that differences exist in the severity of responses to similar stressful life events. Personality was found to be one of the factors contributing to these differences. More specifically, research has shown that certain personality characteristics appear to influence the experience of job stress for nurses. For example, research shows that Type A versus Type B personality

traits in nurses affects the experience of job stress. This study suggests that Type B women may realize less dysfunctional consequences of employment strain and stress than Type A women (Jamal, 1990; Jamal & Baba, 1991). Personal hardiness in nurses has also been found to relate to nurse stress (Kobasa, 1979). Research with the 16PF test also indicated significant relationships between nurse burnout and personality variables (Eastburg, Williamson, Gorsuch, & Ridley, 1994). Factor C of the 16PF instrument measures an element related to emotional stability and anxiety. Hyer, Woods, Boudewyns, and Bruno (1988) found that patients being treated for PTSD had low score on the emotional stability subscale of the 16PF instrument. Thus, in an effort to identify enduring personality characteristics that may be related to potential symptoms of PTSD, the emotional stability factor of the 16PF instrument was used to identify possible personality correlates to the presence of PTSD-like symptoms.

The purpose of this exploratory study is: 1) to determine if pediatric intensive care nurses experience significant PTSD symptomology, and 2) to evaluate the relationship between the personality trait of emotional stability, as measured by scores on the 16PF Factor C subscale, and scores on the Impact of Events Scale (IES), which assesses psychological stress, in pediatric intensive care nurses.

## Method

### Participants

Twenty-seven nurses ( 25 women and 2 men) out of 106 volunteered to participate. Their ages ranged from 25 to 52 years (mean age 37 years).

The average length of nursing experience was 12 years with an average of 6 years in pediatric intensive care nursing. Eighty-five percent worked full-time, and 15% worked part-time. The nurses were equally balanced educationally between an Associate degree in nursing (41%) and a Bachelor's degree in nursing (41%). Eighteen percent of the participating nurses had graduate degrees. All participants were employed in the pediatric intensive care unit at Loma Linda University Medical Center.

### Materials

Consent form. Each subject volunteering to participate in this study was given a consent form (see Appendix A).

General information sheet. The questionnaire packet included a general information sheet. This sheet included questions regarding age, gender, length of nursing experience and length of time in PICU, employment status, education, job stress, job and life satisfaction, thoughts about leaving PICU, and open-ended questions regarding general stress (see Appendix B).

Impact of Events Scale. Also included in the questionnaire packet was the IES (see Appendix C). The participants were instructed to complete this instrument specifically in regards to an event that was work related. The IES was designed to measure presence of traumatic event memories without assuming the presence of resulting symptoms. The IES is composed of two subscales, intrusion and avoidance. The intrusion subscale focuses on "unbidden thoughts and images, troubled dreams, strong pangs or waves of feelings, and repetitive behavior". The avoidance subscale focuses on "ideational constriction, denial of the meaning and consequence of the event,

blunted sensation, behavioral inhibition or counterphobic activity, and awareness of emotional numbness” (Horowitz, et. al., 1979). This scale has been used to identify and measure psychological stress in police officers and ambulance workers (Thompson, 1993). In addition, the IES has been used as a measure along with the DSM-III-R criteria to diagnose PTSD (Muran & Motta, 1993).

Emotional Stability Subscale of the 16-PF Test. Also included in the questionnaire packet were the 10 items comprising the emotional stability subscale (Factor C) of the 16-PF Test (see Appendix D). These items are designed to measure the amount of resources available to an individual to meet everyday challenges or the degree of emotional stability inherent in an individual (Cattell, Eber, & Tatsuoka, 1970; Russell & Karol, 1994). Various subscales of the 16PF instrument have been used or reported in isolation (Magni, Canton, Valfre, & Polesel, 1986; Pryor, 1983; Peck, Morgan, MacPherson, & Bramwell, 1984; Kirchner & Lemke, 1973; Kratky, 1988; Gorsuch, personal communication, March 19, 1996).

### Design and Procedure

The nurses were approached in groups during scheduled inservices for their respective shifts at the Loma Linda University Children’s Hospital. They were informed that the study was looking at issues of stress within the pediatric intensive care unit. Each nurse present was given a packet containing the consent form and the survey questionnaire. They were all invited to participate in the study and instructed to return the survey in the



attached pre-addressed envelope. No identification was made of which nurses were willing to participate in the study.

### Scoring

Objective #1. Level indications of PTSD symptomology were determined by each subject's subscale and overall score on the IES. The severity of PTSD symptomology was assessed by comparison of these scores to a normative sample (Horowitz, et al., 1979). Average item scores between 0 and 1 represent little or no symptomology. Average item scores between 1 and 2 represent moderate symptomology. Average item scores greater than 2 represent higher moderate to more severe symptomology of avoidance and intrusion. A total score of 22.3 or greater on the overall IES score is also considered to demonstrate significant symptomology (Muran & Motta, 1993).

Objective #2. The relationship between the personality variable of emotional stability and potential symptoms of PTSD in pediatric intensive care nurses was assessed by calculating the correlations between each of the two subscales (intrusion subscale and avoidance subscale) and each subject's overall IES score with their emotional stability score on the 16PF scale.

### Results

Mean item scores on the IES were computed for all participants to identify the presence of PTSD symptomology. This analysis was performed on the avoidance and intrusion subscales, as well as on the overall IES scale.

Analysis of the avoidance subscale revealed that 7.4% of the nurses had an average item score between 0 and 1, indicating little or no PTSD symptomology. An average item score between 1 and 2 was found in 40.7% of

the nurses, indicating moderate symptomology. An average item score greater than 2 was observed in 51.9% of the nurses, indicating higher moderate to more severe symptomology. The mean avoidance subscale item score was 2.44 with a SD of .64.

Analysis of the intrusion subscale revealed that 3.7% of the nurses had an average item score between 0 and 1. An average item score between 1 and 2 was found in 44.4% of the nurses, and an average item score greater than 2 was observed in 51.9% of the nurses. The mean intrusion subscale item score was 2.48 with a SD of .58.

Analysis of the total IES scale average item score also revealed that 3.7% of the nurses had an average item score between 0 and 1, and an average item score between 1 and 2 was found in 44.4% of the nurses. An average item score greater than 2 was observed in 51.9% of the nurses. The mean IES item score was 2.48 with a SD of .11. Additionally, 85% of the nurses had a total IES score above 22.3 ( $M = 32.6$ ,  $SD = 9.3$ ) which indicates significant PTSD symptomology.

Individual t-tests, as illustrated in Table 1, were performed to compare the nurses' intrusion and avoidance IES subscale scores with those of five known populations (soldiers without PTSD, soldiers with PTSD, rescue workers, and medical students). No significant differences were found between the nurses in this study and Israeli soldiers diagnosed with PTSD on either the intrusion or avoidance subscale IES scores ( $t=1.04$  and  $1.10$  respectively,  $df = 26$ ). However, significant differences were found with the other four groups. The nurses in this study were found to score an average of 9.4 points higher on

Table 1

Population Scores for the Impact of Events Subscales

Population (Author)	N	<u>Intrusion Subscale</u> Mean (SD)	<u>Avoidance Subscale</u> Mean (SD)
PICU Nurses	27	16.3 (4.8)	16.3 (5.4)
Soldiers without PTSD (Israeli) (Solomon, 1989)	334	6.8 (6.2)	8.4 (9.7)
Soldiers with PTSD (Israeli) (Solomon, 1989)	285	14.6 (9.5)	16.1 (12.6)
Soldiers with PTSD (American) (Frank, Kosten, Giller, & Elisheva, 1988)	12	9.0 (9.3)	11.0 (6.0)
Rescue Workers (Foreman, 1988)	20	11.8 (10.1)	9.2 (10.4)
Medical Students (Horowitz, et al., 1979)	69	4.0 (4.4)	6.0 (6.3)

the intrusion subscale and 7.9 points higher on the avoidance subscale than did Israeli soldiers who did not have PTSD ( $t=9.10$  and  $4.25$  respectively,  $df = 26$ ). The nurses scored an average of 7.2 points higher than American Vietnam soldiers with PTSD on the intrusion subscale and an average of 5.3 points higher on the avoidance subscale ( $t = 4.65$  and  $4.62$  respectively,  $df = 26$ ). Also, the nurses were found to score an average of 4.4 points higher than rescue workers on the intrusion subscale and 7.1 points higher on the avoidance subscale ( $t = 2.63$  and  $3.56$  respectively,  $df = 26$ ). Finally, the nurses scored an average of 12.2 points higher than the medical students on the intrusion subscale and an average of 10.3 points higher on the avoidance subscale ( $t = 16.61$  and  $8.52$  respectively,  $df = 26$ ).

The results of this present study indicated that the total IES scores positively correlated with the intrusion subscale ( $r = .92$ ,  $p = .00$ ) and the avoidance subscale ( $r = .90$ ,  $p = .00$ ). The two subscales, intrusion and avoidance, positively correlated with each other ( $r = .66$ ,  $p = .00$ ). In this present study the estimated reliability of the intrusion subscale as estimated from Cronbach's alpha is .96. The reliability of the avoidance subscale is .78, and the reliability of the total IES score is .89. These are estimates of internal consistency. The results of this study also indicated that the 16PF subscale negatively correlated with the intrusion subscale of the IES ( $r = -.60$ ,  $p = .00$ ), the avoidance subscale ( $r = -.46$ ,  $p = .02$ ), and the participants' total IES score ( $r = -.64$ ,  $p = .00$ ). In this present study the estimated reliability of the emotional stability subscale of the 16PF instrument as measured by Cronbach's alpha is .74.

Correlational analysis was performed to determine the relationship between the personality variable of emotional stability and symptoms of PTSD in the participants. The results revealed that the participants' 16PF score indicating emotional stability was negatively correlated with the intrusion subscale of the IES ( $r = -.69, p = .00$ ), the avoidance subscale ( $r = -.46, p = .02$ ), and the total IES score ( $r = -.64, p = .00$ ). Eighteen percent of the nurses had a "standard ten score" (STEN) on the 16PF subscale ranging from 1 - 3, indicating low emotional stability. All five of these nurses also reported greater than moderate to severe PTSD symptomology. Seventy-eight percent of the nurses had a STEN score ranging from 4 - 7, indicating average emotional stability. Of these nurses, 1 reported little or no PTSD symptomology, 11 reported moderate PTSD symptomology, and 9 reported greater than moderate to severe PTSD symptomology. Four percent of the nurses had a STEN score ranging from 8 - 10, representing high emotional stability. The one nurse in this category reported moderate PTSD symptomology.

Although the main purpose of this study was to assess the level of PTSD symptomology in pediatric intensive care nurses and to explore a relationship between PTSD symptomology and the personality factor of emotional stability, the demographic data collected also permits some additional exploratory analyses. Accordingly, several significant relationships were observed. Job stress was found to positively correlate with the intrusion subscale of the IES ( $r = .49, p = .01$ ), job satisfaction negatively correlated with the intrusion subscale ( $r = -.38, p = .05$ ) and the total IES score ( $r = -.40,$

$p = .04$ ). The number of times the nurses reported thoughts of leaving nursing or the PICU during the previous month positively correlated with their score on the intrusion subscale of the IES ( $r = .47$ ,  $p < .01$ ), the avoidance subscale ( $r = .41$ ,  $p = .03$ ), and the total IES score ( $r = .49$ ,  $p = .01$ ). The reported number of thoughts of leaving correlated negatively with job satisfaction ( $r = -.46$ ,  $p = .02$ ). Additionally, a number of other correlations were observed that did not achieve a significance level of .05. However, because this study is exploratory in nature, and the possibility that with a larger number of participants significance may have been found, these relationships warrant attention. Age was found to positively correlate with the avoidance subscale of the IES ( $r = .37$ ,  $p = .06$ ). Job stress was observed to positively correlate with the total IES score ( $r = .37$ ,  $p = .06$ ) and to negatively correlate with level of education ( $r = -.33$ ,  $p = .10$ ). Job satisfaction was found to positively correlate with the emotional stability subscale of the 16PF instrument ( $r = .35$ ,  $p = .07$ ). Job satisfaction was found to negatively correlate with the avoidance subscale of the IES ( $r = -.36$ ,  $p = .06$ ), length of nursing experience ( $r = -.30$ ,  $p = .13$ ), and length of PICU experience ( $r = -.38$ ,  $p = .06$ ). Life satisfaction positively correlated with the emotional stability subscale of the 16PF instrument ( $r = .34$ ,  $p = .08$ ).

### Discussion

The presence of PTSD-like symptomology in the pediatric intensive care unit nurses at Loma Linda University Children's Hospital is demonstrated in this study. The average item score analysis of the IES intrusion subscale revealed that 96.3% of the nurses experienced moderate to severe PTSD-like

symptomology, including intrusive images and thoughts, troubled dreams, repetitive behavior, and strong feelings. The average item score analysis of the avoidance subscale revealed that 92.6% of the nurses experienced moderate to severe symptomology, including blunted sensations, emotional numbness, behavioral inhibitions, constriction of thought formation, and denial of both the meaning and the consequence of events. Analysis of the total IES average item scores indicated that 44.4% of the nurses experienced moderate PTSD symptomology, and 51.9% experienced greater than moderate to severe symptomology. A total of 96.3% of the nurses experienced moderate to severe PTSD symptomology.

Analysis of the relationship between the personality variable of emotional stability and the nurses' IES scores indicates that the greater the degree of personal emotional stability an individual possesses, the fewer PTSD-like symptoms they experience. This trend holds true for both intrusion as well as avoidance symptoms. This finding suggests that individuals with higher emotional stability may have more resources available to meet everyday challenges including those found in caring for seriously ill and dying children. Cattell (1989) reports that individuals scoring low in emotional stability tend to worry and become easily perturbed. They are likely to show deficits in strategies of problem-solving in their environment. They may have difficulty in recognizing the strength of their own personal needs as well as in identification of options that may satisfy such needs while preserving their well-being on a long-term basis. Additionally, they may be unable to adequately implement even appropriately selected options. Individuals low on

this scale are also more likely to attempt to defend themselves by intentionally trying to do things that will allow them to feel better, but which, unfortunately, don't change their relationship with their environment or the problem.

Examples of this type of behavior could include many of the symptoms measured on the avoidance subscale of the IES including attempts to avoid reminders of the event and attempts to erase it from their memory. An individual with low emotional stability is in danger of denying their feelings partially out of an inability to be in touch with them. Unfortunately, their behavior may disrupt interpersonal relationships which can reduce the amount of support available to meet challenges and disappointments.

Alternately, individuals scoring high in emotional stability tend to be calm and refrain from letting their emotional needs alter the reality of situations. They are able to accept frustration, effort, and loss as inescapable aspects of life. They tend to have fewer unrealistic expectations, which helps minimize disappointments. The ability to be realistic in the expectations of recovery for a child can obviously affect levels of disappointment, frustration, and loss in a nurse. Individuals with high emotional stability tend to not set goals that are unreachable. They appear more able to discern correctly the limits of individual responsibility and control. They do not demand themselves to solve unsolvable problems. Unfortunately, unsolvable problems do exist in the pediatric intensive care unit. Some children will die no matter what efforts are made to save them. Individuals with high emotional stability are often able to anticipate and prepare themselves for unpleasant events as well as maintain good interpersonal



relationships and a positive outlook during unpleasant or even dangerous situations. The negative relationship found between the participants score on the measure of emotional stability and their score indications of PTSD-like symptoms is, therefore, consistent with the personality descriptions of those high and low in emotional stability. Individuals with high emotional stability appear to have more realistic expectations and fewer self-defeating responses to the inevitable losses experienced in nursing. It logically follows that their IES scores would indicate that they, in turn, experience fewer PTSD-like symptoms.

A limitation of this study includes the self-selection of participants. It is possible that the nurses who chose not to return the survey may not be experiencing the same level of PTSD-like symptomology reported by the participants in this study. While only 27 out of the 106 nurses on the PICU participated, the resulting reports of PTSD symptomology are alarming. If it were assumed that all the nurses who did not participate had absolutely no PTSD symptoms, the results would still indicate that 24% of the entire nursing population on this unit experience moderate to severe PTSD symptomology. These symptoms are indicative of significant life stressors and not simply burn-out factors such as fatigue or low wages that increase the likelihood of a nursing quitting or changing work locations. The high level of symptomology found in 96% of these nurses in this study indicates that a high number of pediatric intensive care nurses do experience negative symptoms in response to stress. This would suggest the need for the implementation of programs designed to prevent and/or provide interventions for nurses with

these symptoms. The personal lives of the nurses, as well as quality care for the patients can be affected by such symptomology.

Another factor that may have impacted this study deals with the length of time between the critical incident and the written response to that event.

The amount of elapsed time in the four population sample that were compared with the nursing sample ranged from 27 weeks to over 500 weeks. The average elapsed time for the nurses in this study was 46 weeks. However, if the length of time for one outlying nurse was removed, the average elapsed time for the nurses in this study would be 7 weeks. It is possible that recalling the event closer to the time of occurrence could increase the reporting of PTSD symptomology. Yet, nurses are in a position where these types of incidents, such as children dying, occur continually. Therefore, there is not likely to be a great length of time between such events at any point in time for these nurses.

This study presents a number of issues that suggest the need for further research. First, emotional stability appears to be negatively related to the occurrence of PTSD-like symptoms in nurses. However, due to the fact that only one nurse participating in this study scored high in emotional stability, not enough data is available to formulate a definitive conclusion as to the effect of high emotional stability on PICU nurses. Future research should continue to study the interaction of this personality variable with nursing stress. A second point of interest for future study is the effect of caring for critically ill and dying adults and infants in comparison with the pediatric patient population. It is possible that experiencing the death of older adult patients or newborn infants who had not previously experience quality of life

may not elicit the same strength of negative responses from nurses. Third, this study also noted a number of correlations that warrant further attention. Reports of job stress appear to increase with the length of nursing experience, and job satisfaction appears to decrease with continued nursing. Fourth, PTSD symptoms in nurses may be even more reliably reported with an instrument that is designed to measure such symptomology specifically in the health professional. Finally, the nurses' responses to the open-ended stress questions suggest that possible interventions may include the teaching of more effective communication techniques for dealing with the patients' families, increased debriefing time, and some type of emotional break during the day, especially for nurses who just experienced a patient's death.

In conclusion, this study found that an alarmingly high percentage of PICU nurses experience moderate to severe PTSD-like symptomology. Those nurses who have greater degrees of personal emotional stability seem to be buffered to some extent from the negative effects of the stress, frustration, and loss found in the PICU. However, average emotional stability does not appear adequate to protect a nurse from moderate to severe PTSD-like symptoms. These findings suggest that strategies and interventions need to be designed and implemented in order to provide PICU nurses with the knowledge and skills needed to meet critical incidents on the unit in such a way that minimized the amount of negative impact on their personal well-being.

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## Appendix A



LOMA LINDA UNIVERSITY

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INFORMED CONSENT

NURSING STRESSORS IN INTENSIVE CARE UNITS

Dear Participant:

You have been selected to participate in a study on stress you may experience in your work.

Purpose & Procedure

The Psychology Department at Loma Linda University is asking that you fill out a questionnaire regarding stress and your work on your nursing unit. You are invited to participate in this study to help us understand how nurses feel about different stressors they encounter in their work. The purpose of this study is to understand stressors and assist healthcare administrators in providing services and interventions to healthcare providers such as yourself. Participation in this study will take you approximately 20 minutes to fill out a form with demographic information and to complete the questionnaire. Participation in this study involves: 1) reading this consent form, 2) filling out the questionnaire packet, and 3) placing the completed packet in the envelope provided and placing it in any interhospital/inter-campus mail location.

Risks

There are no identifiable risks associated with participation in this study. Should you experience any feelings of anxiety, you may contact Dr. Kiti Freier at (909) 478-8577.

## Nursing Stressors in Intensive Care Units

### Benefits

Since this is a research study, we will be unable to give you individual scores/results. However, general stress results will be reported the administrators of the PICU. This study will help increase awareness of sources of stress as well as allow consideration of measures aimed at reducing and/or dealing more productively with nursing stress on your unit.

### Participants' Rights

Participation in this study is voluntary.

### Confidentiality

All results are kept strictly confidential. All data is kept in a locked filing cabinet, and the consent form is separate from the demographic form and the questionnaire so that your identity is not attached to your data.

### Additional Costs

There is no cost to you for participating in this study.

### Reimbursement

There is no reimbursement or inducements for participating in this study.

### Impartial Third Party Contact

If you wish to contact an impartial third party not associated with this study regarding any complaint you may have about the study, then you may contact Jean Frankhanel, Patient Representative, Loma Linda University Medical Center, Loma Linda, CA 92354, phone (909) 824-4647 for information and assistance.

### Informed Consent Statement

I have read the contents of the consent form. My questions concerning this study have been answered to my satisfaction. If I have any questions, I know that I may contact Dr. Kiti Freier at (909) 478-8577. I hereby give voluntary consent to participate in this study. Signing this consent document does not waive my rights nor does it release the investigators, institution, or sponsors from their responsibilities. I may call Dr. Kiti Freier during routine office hours at (909) 478-8577 if I have additional questions or concerns.

Nursing Stressors in Intensive Care Units

Consent Copy

You may keep this consent form for your records.

***Due to the fact that there are only about 100 nurses working in the PICU, input from each of you will make a significant difference in enabling reliable results from this study. Your individual questionnaire is important!***

***THANK YOU SO MUCH FOR YOUR PARTICIPATION; IT IS GREATLY APPRECIATED!***

## CALIFORNIA EXPERIMENTAL SUBJECT'S BILL OF RIGHTS

You have been asked to participate as a subject in an experimental clinical procedure. Before you decide whether you want to participate in the experimental procedure, you have a right to:

1. Be informed of the nature and purpose of the experiment;
2. Be given an explanation of the procedures to be followed in the medical experiment, and any drug or device to be utilized;
3. Be given a description of any attendant discomforts and risks reasonably to be expected from your participation in the experiment;
4. Be given an explanation of any benefits reasonably to be expected from your participation in the experiment;
5. Be given a disclosure of any appropriate alternative procedures, drugs, or devices that might be advantageous to you and their relative risks and benefits;
6. Be informed of the avenues of medical treatment, if any, available to you after the experimental procedure if complications should arise;
7. Be given an opportunity to ask any questions concerning the medical experiment or the procedures involved;
8. Be instructed that consent to participate in the experimental procedure may be withdrawn at any time and that you may discontinue participation in the medical experiment without prejudice;
9. Be given a copy of this form and the consent form; and
10. Be given the opportunity to decide to consent or not to consent to the medical experiment without the intervention of any element of force, deceit, duress, coercion, or undue influence on your decision.

I have carefully read the information contained above in the "California Experimental Subject's Bill of Rights" and I understand fully my rights as a potential subject in a medical experiment involving people as subjects.

Appendix B

**GENERAL INFORMATION**

**Please answer each of the following questions. It is important that all of the questions are completed.**

1. Age \_\_\_\_\_
2. Gender: \_\_\_\_\_ Female  
                   \_\_\_\_\_ Male
3. Length of nursing experience:                   Years \_\_\_\_\_ Months \_\_\_\_\_
4. Length of time on present PICU:                Years \_\_\_\_\_ Months \_\_\_\_\_
5. Employment status: \_\_\_\_\_ Full-time  
   \_\_\_\_\_ Part-time

6. Education level: \_\_\_\_\_

(circle the correct number)	Low -----	Low- <u>Moderate</u>	Moderate -----	Moderate- <u>High</u>	High -----
-----------------------------	--------------	-------------------------	-------------------	--------------------------	---------------

- |                       |   |   |   |   |   |
|-----------------------|---|---|---|---|---|
| 7. Job stress:        | 1 | 2 | 3 | 4 | 5 |
| 8. Job satisfaction:  | 1 | 2 | 3 | 4 | 5 |
| 9. Life satisfaction: | 1 | 2 | 3 | 4 | 5 |

10. How many times in the past month have you thought about leaving your present unit or leaving nursing altogether? \_\_\_\_\_

11.. List the three most stressful aspects of your present nursing position and order them with #1 being the most stressful of the three (if you need more room, please write on the back of this sheet).

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

Appendix C

Complete this section using a stressful event that is work related. You may consider an event connected with one of the stressors you listed on the “General Information” page.

Directions: Below is a list of comments made by people about stressful life events and the context surrounding them. Read each item and decide how frequently each item was true for you DURING THE PAST SEVEN (7) DAYS regarding \_\_\_\_\_

If the item did not occur during the past seven days, choose the NOT AT ALL option. Circle the number of the response which best describes that item. Please complete each item.

	(1) Not at all	(2) Rarely	(3) Sometimes	(4) Often
	Not at all	Rarely	Sometimes	Often
1. I thought about it when I didn't mean to.	1	2	3	4
2. I avoided letting myself get upset when I thought about it or was reminded of it.	1	2	3	4
3. I tried to remove it from memory.	1	2	3	4
4. I had trouble falling asleep or staying asleep, because of pictures or thoughts that came into my mind.	1	2	3	4
5. I had waves of strong feelings about it.	1	2	3	4
6. I had dreams about it.	1	2	3	4
7. I stayed away from reminders of it.	1	2	3	4
8. I felt as if it hadn't happened or wasn't real.	1	2	3	4
9. I tried not to talk about it.	1	2	3	4
10. Pictures about it popped into my mind.	1	2	3	4

- |   | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 11. Other things kept making me think about it.   | 1 | 2 | 3 | 4 |
| 12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.               | 1 | 2 | 3 | 4 |
| 13. I tried not to think about it.  | 1 | 2 | 3 | 4 |
| 14. Any reminder brought back feelings about it.  | 1 | 2 | 3 | 4 |
| 15. My feelings about it were kind of numb.   | 1 | 2 | 3 | 4 |
| 16. How long ago did the experience listed above for which you answered these 15 questions occur? _____ |   |   |   |   |



## Appendix D

**This page contains some questions to see what interests you have and how you feel about things.**

- 1. Read each statement and circle the one answer that best describes you. For most of the questions there are no “right” or “wrong” answers; just answer what is true for you.**
  - 2. Don’t spend too much time thinking over any one question. Give the first, natural answer that comes to you.**
  - 3. Answer every question. Don’t skip any. If you want to change an answer, please erase the old one completely.**
  - 4. Try to mark the “a” or “c” answer. Note that the middle answer is a question mark, “?”. Only mark this answer when neither “a” nor “c” is better for you.**
  - 5. Answer candidly. It is important that you be as careful and honest as you can and give answers that describe you best. Do not give an answer because it seems like the right thing to say or because it is what you might like to be.**
1. When something upsets me, I usually get over it quite soon.
    - a. true
    - b. ?
    - c. false
  2. When one small thing after another wrong, I:
    - a. feel as though I can’t cope;
    - b. ?
    - c. just go on as usual.
  3. When the time comes for something I have planned and looked forward to, I occasionally do not feel up to going.
    - a. true
    - b. ?
    - c. false
  4. In my personal life I reach the goals I set, almost all of the time.
    - a. true
    - b. ?
    - c. false

5. I feel that my emotional needs are:
  - a. **not too satisfied;**
  - b. ?
  - c. **well satisfied.**
  
6. I don't let myself get depressed over little things.
  - a. **true**
  - b. ?
  - c. **false**
  
7. I usually go to bed at night feeling satisfied with how my day went.
  - a. **true**
  - b. ?
  - c. **false**
  
8. I have more ups and downs in mood than most people I know.
  - a. **usually true**
  - b. ?
  - c. **usually false**
  
9. There are times when I don't feel in the right mood to see anyone.
  - a. **very rarely**
  - b. ?
  - c. **quite often**
  
10. In my everyday life, I hardly ever meet problems that I can't cope with.
  - a. **true, I can cope easily**
  - b. ?
  - c. **false**