

# Hopelessness and Suicide Risk Emerge in Psychiatric Nurses Suffering From Burnout and Using Specific Defense Mechanisms

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Burnout in psychiatric nurses is a phenomenon of great concern. We conducted an investigation of 120 nurses working in the psychiatric, general medicine/rehabilitation, and critical care/surgery wards to explore the correlations of level of burnout and defense mechanisms with hopelessness. The nurses were administered the Maslach Burnout Inventory, Gleser and Ihlevich's Defense Mechanisms Inventory, and Beck's Hopelessness Scale. The results indicate that burnout and some of the defense mechanisms predicted the level of hopelessness—a predictor of suicide risk.

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**B**URNOUT IS A state of mental and/or physical exhaustion caused by excessive and prolonged stress (Girdano, Everly, & Dusek, 1996). It was first described more than 30 years ago (Freudenberger, 1974; Maslach, 1976). Maslach, Jackson, and Leiter (1996) described burnout as a syndrome consisting of emotional exhaustion, depersonalization, and reduced personal accomplishment. There are three stages of burnout: stress arousal, energy conservation, and exhaustion. The stress arousal stage includes physiological and psychological responses such as persistent irritability, persistent anxiety, periods of high blood pressure, bruxism (the grinding of teeth during sleep), insomnia, and forgetfulness. In addition, there may be heart palpitations, unusual heart arrhythmia, concentration problems, headaches/stomach problems, and acute gastrointestinal symptoms.

Energy conservation is the first attempt to compensate for stress. Symptoms include excessive lateness, procrastination, excessive time off, decreased desire for sex, persistent tiredness, social withdrawal from friends and family, increased cynicism, resentment, increased substance use (nicotine, caffeine, alcohol, prescription drugs, etc.), and excessive apathy.

The exhaustion stage represents the most serious stage of burnout with symptoms such as chronic sadness or depression, chronic stomach or bowel problems, chronic mental fatigue, chronic physical

fatigue, chronic headaches or migraines, the desire to “drop out” of society, the desire to get away from family and friends, and recurrent suicidal ideation. According to Maslach (1982), burnout is a combination of exhaustion, depression, and negative feelings about oneself. These symptoms are triggered by a “mismatch between the person and the social environment of the workplace.”

Although all nurses share similar pressures, there are a number of demands specific to mental health settings (Jenkins & Elliott, 2004). These include the often intense nature of nurse–patient interactions (Cronin-Stubbs & Brophy, 1985) and confronting difficult and challenging patient behaviors on a regular basis (Sullivan, 1993).

The symptoms of burnout in nurses are as varied as the sufferers: Some people become angry, blowing up or growling at anyone who crosses their path. Some resort to blaming any annoyance,

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large or small, on external factors. Some become quiet, introverted and isolated, which can indicate the start of a serious depression. Some manifest burnout by undereating or overeating or by abusing alcohol or other mood-altering substances. Still others may experience a range of physical symptoms, including chronic illness, high blood pressure, and frequent headaches. Some nurses on the verge of burnout actually become obsessive workaholics, whereas others become chronically late or psychologically absent.

According to some authors, some 25% of all nurses suffer from burnout (Landau, 1992). Nurses are particularly susceptible to burnout, mainly because of the nature and emotional demands of their profession (Foxall, Zimmerman, Standley, & Bene 1990; Hannigan, Edwards, Burnard, Coyle, & Fothergill, 2000; Lindsey & Attridge, 1989; Severinsson & Kamaker, 1999). Nurses' overall well-being is undermined by burnout (Lee, Hwang, Kim, & Daly, 2004). McGrath, Reid, and Boore (1989) argued that nurses often experience burnout when there is a reduced sense of personal accomplishment and a sense of failure, especially when meaning cannot be found through work.

Some of the people who become nurses do so to replicate significant experiences from their childhood and to optimize dreams and expectations passed on to them by family members (Belanger, 2000). Sometimes, these expectations are difficult to meet.

Effects of burnout can range from a mild degree of dysfunction to exhaustion (Tavares, 1994). According to Gillespie and Melby (2003), nurses may experience a variety of symptoms of burnout, such as reduced self-esteem, lack of confidence, reduced job satisfaction, an inability to relax and enjoy life, and an inability to keep things in perspective and form balanced judgments. There appear to be differences in the degree of burnout experienced by nurses working in different fields. Cronin-Stubbs and Brophy (1985) studied burnout among 296 nurses from four nursing specialties (intensive care units, internal medicine wards, surgery, and psychiatric departments) but did not find statistically significant differences.

Defense mechanisms are means to cope with stress, and defense mechanisms and symptoms are closely related. According to the "stress and coping" paradigm developed by Lazarus and Folkman (1984), people will experience stress if they appraise an event as stressful and if they perceive

the demands posed by that event as exceeding their ability to cope. A defense mechanism is a means of coping with some types of conflict. In 1917, Sigmund Freud introduced the concept of defense mechanism, later expanded by Anna Freud (1937), and described it as a means by which an individual distorts feelings and perceptions to avoid conflict between various internal psychological needs and the demands of external reality. Freud (1937) noted that there may be a close connection between specific defense mechanisms and particular forms of emotional disturbance.

Hopelessness has been considered as a major risk factor for suicide. Hawton and Vislisel (1999) reviewed the international literature and reported that, in several countries, female nurses are at increased risk of committing suicide. They included personal stress and occupational stress as possible contributory factors to nurses' suicides and cited sources that support this notion (Day & Payne, 1995; Seymour, 1995). Hawton and Vislisel reported that a combination of high workload and low autonomy (especially in making decisions) is likely to cause job dissatisfaction and health problems. They found that an increased risk of committing suicide in nurses was associated positively with smoking and negatively with caffeine consumption. Access to means for suicide, such as drugs and medication, was a less important risk factor for nurses when compared with suicide risk in doctors, pharmacists, dentists, surgeons, and veterinarians.

According to Peipins, Burnett, Alterman, and Lalich (1997), suicide is among the top five causes of death in nurses and all nurses, from students to retirees, have higher rates of suicide than the general population.

Stress and burnout might be related to the excess mortality from suicide in nurses (Katz, 1983; King, Threlfall, Band, & Gallagher, 1994). Belanger (2000) suggested that occupational stress for nurses might lead to emotional or psychological trauma, which in turn might lead to suicide. Also, many nurses lack proper training about suicide and therefore may appear unsympathetic toward suicidal patients and deny or suppress warning signs for suicidality, a tendency that may apply to their own contemplation of suicide (Pompili, Girardi, Ruberto, Kotzalidis, & Tatarelli, 2005). Saarinen, Lehtonen, and Lonnqvist (1999) reviewed various factors that impair the ability of medical staff to identify markers of suicide in patients with schiz-

ophrenia and noted how personal conflicts interfered with these decisions. They pointed to difficulties in dealing with suicide and personal problems as major elements. In particular, acceptance of a patient's suicide as a solution to problems, unconscious wishes that a patient would commit suicide as a solution to his or her problem, fear of a patient, and difficulties in dealing with suicidal individuals are some of the most important sources of stress in the mental health environment.

Desperation (Hendin, Maltsberger, Haas, Szanto, & Rabinowicz, 2004) and hopelessness (Beck, Brown, Berchick, Stewart, & Steer, 1990; Beck, Weissman, Lester, & Trexler, 1974) have been reported as strong predictors of eventual suicide. Hendin et al. investigated 26 suicides and found that the coexistence of hopelessness and desperation was observed in 14 cases. They argued that, although hopelessness has been proven to be a predictor of long-term risk for suicide, some depressed patients appear to live with and tolerate feelings of hopelessness about the future and that desperation may be a better marker than hopelessness of a suicide crisis.

This study introduces the Defense Mechanisms Inventory (DMI) to the study of burnout and hopelessness. Recklitis, Noam, and Borst (1992) investigated adolescent suicides through the use of the DMI and highlighted particular defense mechanisms in the understanding of suicidal behavior. It is hypothesized in this article that people suffering from burnout will show specific defense mechanisms. A further hypothesis is that there may be individuals suffering from burnout and showing specific defense mechanisms who may experience hopelessness and, in turn, suicidality.

The aim of this article was to investigate associations between burnout, defense mechanisms, and hopelessness in nurses working in different wards. To the best of our knowledge, this is the first work to investigate hopelessness as a result of burnout and defense mechanisms.

## MATERIALS AND METHODS

Full-time qualified Italian nurses working in the Rome area in public and private clinics were contacted and asked to participate in this study. A closed envelope containing the tests described subsequently was handed to 147 nurses. Of the given questionnaires, 27 were judged to be incomplete and excluded from further analysis, leaving

**Table 1. Sex and Wards of the Nurses Included in the Sample**

	Sex		Total
	Men (n)	Women (n)	
General medicine/Rehabilitation	14	33	47
Critical care/Surgery	11	25	36
Psychiatry	8	29	37
Total	33	87	120

data from 120 individuals whose differentiations by sex and ward are shown in Table 1. The mean age of the men was 37.6 years (range = 26–53 years,  $SD \pm 6.1$  years), and that of the women was 33.8 years (range = 23–56 years,  $SD \pm 7.0$  years). Most participants were married and had children (range = 1–3); 75% of the nurses in the sample worked 36 hours per week, with a peak of 50 hours.

This study was conducted between February and May 2004. Questionnaires were distributed to nursing staff with a covering letter outlining the study and ensuring confidentiality of responses. Stamped addressed envelopes were enclosed for the return of questionnaires to the researchers.

Completion and return of the questionnaire were taken as evidence of an individual's giving of informed consent to participate in the study. One of the authors (G.R.) contacted the institution review board (IRB) of each clinic where participants were enrolled, and each IRB approved the study after receiving careful explanation of the study's subject selection, procedure, risk and benefits, and the informational and consent forms.

## Instruments

### *Maslach Burnout Inventory*

The Maslach Burnout Inventory (MBI; Maslach et al., 1996) consists of 22 items grouped into three subscales: emotional exhaustion, depersonalization, and personal accomplishment. Participants were asked to rate the items on a scale of 0 (*never*) to 6 (*everyday*), and mean scores were calculated for each of the three subscales. The higher the score on the emotional exhaustion and the depersonalization subscales, the greater the degree of burnout. Low scores on the personal accomplishment reflect a high degree of burnout. The MBI has good psychometric properties, including a substantial general factor underlying the emotional exhaustion and depersonalization subscales, a replicable 2-factor and 3-factor structure, high internal consistency, and a high split-half reliability.

### *Defense Mechanisms Inventory*

The DMI, a paper-and-pencil test (Gleser & Ihilevich, 1969; Ihilevich & Gleser, 1986), is one of the most widely used measures of defense mechanisms (Noam & Recklitis, 1990). Subjects completing the measure are asked to describe their reactions to 10 hypothetical dilemmas. After the presentation of each dilemma, subjects are asked the following questions:

1. What would your actual reaction be?
2. What would you impulsively (in fantasy) wish to do?
3. What thoughts would occur to you? and
4. How would you feel and why?

Subjects respond to each question by choosing, from five possible alternatives, the response that would be most like theirs and the response that would be least like theirs. Based on the subjects' responses to hypothetical interpersonal conflicts, the DMI generates scores on the following defense clusters:

1. Turning Against the Object (TAO) involves defenses that respond to conflict by attacking an external object, such as the defenses of displacement, regression, and identification with the aggressor.
2. Principalization (PRN) involves defenses such as intellectualization, rationalization, and isolation of conflict.
3. Turning Against the Self (TAS) involves defenses that deal with conflict by directing aggressive thoughts or behaviors toward oneself, such as masochism and introjection.
4. Reversal (REV) involves defenses that deal with conflict by responding neutrally or positively toward a frustrating object, such as denial.
5. Projection (PRO) is the attribution of negative qualities to an object as a justification for the expression of aggression.

### *Beck Hopelessness Scale*

The Beck Hopelessness Scale (BHS; Beck et al., 1974) is a 20-item scale for measuring negative attitudes about the future. Beck et al. originally developed this scale to predict who would commit suicide and who would not. This powerful predictor of eventual suicide addresses three major aspects of

hopelessness: feelings about the future, loss of motivation, and expectations. In responding to the 20 true-or-false items on the BHS, individuals can either endorse a pessimistic statement or deny an optimistic statement. Research consistently supports a positive relationship between BHS scores and measures of depression, suicidal intent, and suicidal ideation. Beck et al. (1990) carried out a prospective study on 1,958 outpatients and found that hopelessness, as measured by the BHS, was significantly related to eventual suicide. A cutoff score of 9 or higher identified 16 (94%) of 17 patients who eventually committed suicide. According to this study, the high-risk group identified by this cutoff score was 11 times more likely to commit suicide than the rest of the outpatients. Thus, the BHS may be used as an indicator of suicide potential.

### **Statistical Methods**

Statistical analysis was performed through the use of SPSS for Windows.

The statistical methods discussed subsequently were used in our analysis.

One-way analysis of variance (ANOVA) is a way to test the equality of three or more means at one time by using variances. It requires that the populations from which samples were obtained be normally or approximately normally distributed, the samples be independent, and the variances of the populations be equal. The null hypothesis is that all the population means are equal; the alternative hypothesis is that at least one mean is different. In this study, the independent variable (type of ward) had three levels: medicine/rehabilitation, critical care/surgery, and psychiatry.

Two-way ANOVA has two or more independent variables. It increases the power of explanation by adding another factor and examines interactions between independent variables. In this study, the independent variables were type of ward (general medicine/rehabilitation, critical care/surgery, and psychiatry) and burnout (absent vs. present). This analysis permits an examination of the effects that the single factors play independently on the dependent variable and the interaction effect.

Pearson's correlation coefficient calculates the linear correlation coefficient ( $r$ ) between two variables,  $x$  and  $y$ . It measures the linear association between two variables; that is, the extent to which one variable increases or decreases linearly with the other.

Stepwise multiple regression, also called statistical regression, is a way of computing an ordinary least squares regression in stages. In Stage 1, the independent variable that best correlated with the dependent variable is included in the equation. In Stage 2, the remaining independent variable with the highest partial correlation with the dependent variable, controlling for the first independent variable, is entered. This process is repeated, at each stage, partialling for the previously entered independent variables, until the addition of a remaining independent variable does not increase the  $R^2$  by a significant amount (or until all variables are entered, of course). Alternatively, the process can work backward.

RESULTS

The mean scores and results of statistical analysis for the burnout scores for the nurses from the three wards are shown in Table 2. The hypothesis that burnout differs in the three kinds of wards is consistent with these results. In fact, one-way ANOVA showed that nurses in psychiatric wards and general medicine/rehabilitation wards had higher mean scores than those in critical care medicine/surgery wards.

Higher mean scores for the depersonalization variables were noticeable among nurses working in psychiatric wards, whereas the lowest scores were by nurses working in general medicine/rehabilitation. Nurses working in critical care medicine/surgery had intermediate scores for this variable.

Table 2. One-Way ANOVA for Emotional Exhaustion, Depersonalization, and Personal Accomplishment

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>
Emotional exhaustion				
General medicine/Rehabilitation	19.70 <sup>a</sup>	11.78	4.88	<.009
Critical care/Surgery	13.83 <sup>b</sup>	9.69		
Psychiatry	21.16 <sup>a</sup>	10.07		
Depersonalization				
General medicine/Rehabilitation	4.89 <sup>a</sup>	3.43	3.32	<.03
Critical care/Surgery	6.53 <sup>ab</sup>	5.09		
Psychiatry	8.35 <sup>b</sup>	6.82		
Personal accomplishment				
General medicine/Rehabilitation	38.45	6.41	.40	<i>ns</i>
Critical care/Surgery	37.03	7.74		
Psychiatry	37.41	8.47		

a,b: when letters vary there is difference, the same letters indicate homogeneity.

Table 3. Two-Way ANOVA for Each of the Six Defense Mechanisms

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>
<i>TAO</i>				
Comparison between wards				
General medicine/Rehabilitation	46.28 <sup>a</sup>	10.92	7.95	<.001
Critical care/Surgery	47.03 <sup>a</sup>	10.43		
Psychiatry	39.68 <sup>b</sup>	8.68		
Comparison for burnout				
Absence	42.92	10.82	5.41	<.02
Presence	46.07	10.11		
Burnout in wards				
General medicine/Rehabilitation				
Absence	44.07	10.57	0.95	<i>ns</i>
Presence	49.25	10.94		
Critical care/Surgery				
Absence	46.70	9.85		
Presence	47.44	11.42		
Psychiatry				
Absence	35.29	9.33		
Presence	42.35	7.22		
<i>PRO</i>				
Comparison between wards				
General medicine/Rehabilitation	50.06 <sup>a</sup>	8.87	5.85	<.004
Critical care/Surgery	49.39 <sup>a</sup>	7.33		
Psychiatry	44.24 <sup>b</sup>	8.30		
Comparison for burnout				
Absence	47.70	8.10	1.24	<i>ns</i>
Presence	48.44	9.11		
Burnout in wards				
General medicine/Rehabilitation				
Absence	49.59	7.98	0.30	<i>ns</i>
Presence	50.70	10.14		
Critical care/Surgery				
Absence	47.85	6.12		
Presence	51.31	8.42		
Psychiatry				
Absence	43.86	9.87		
Presence	44.48	7.41		
<i>PRN</i>				
Comparison between wards				
General medicine/Rehabilitation	50.68 <sup>a</sup>	9.23	3.20	<.04
Critical care/Surgery	52.17 <sup>a</sup>	7.86		
Psychiatry	55.14 <sup>b</sup>	12.26		
Comparison for burnout				
Absence	54.00	10.96	5.10	<.02
Presence	50.95	8.74		
Burnout in wards				
General medicine/Rehabilitation				
Absence	51.00	9.51	1.22	<i>ns</i>
Presence	50.25	9.07		

(continued on next page)

**Table 3 (continued)**

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>
<i>PRN</i>				
Burnout in wards				
Critical care/Surgery				
Absence	53.95	6.85		
Presence	49.94	8.68		
Psychiatry				
Absence	59.86	15.79		
Presence	52.26	8.71		
<i>TAS</i>				
Comparison between wards				
General medicine/Rehabilitation				
	45.83	10.98	0.26	<i>ns</i>
Critical care/Surgery				
	45.72	9.70		
Psychiatry				
	49.43	13.97		
Comparison for burnout				
Absence	43.51	10.31	13.58	<.001
Presence	50.42	12.03		
Burnout in wards				
General medicine/Rehabilitation				
Absence	46.41	11.03	6.95	<.001
Presence	45.05	11.14		
Critical care/Surgery				
Absence	42.65	7.49		
Presence	49.56	10.97		
Psychiatry				
Absence	39.14	11.21		
Presence	55.70	11.69		
<i>REV</i>				
Comparison between wards				
General medicine/Rehabilitation				
	58.49 <sup>a</sup>	9.82	7.02	<.001
Critical care/Surgery				
	57.31 <sup>a</sup>	10.13		
Psychiatry				
	64.68 <sup>b</sup>	11.75		
Comparison for burnout				
Absence	62.28	10.12	9.16	<.003
Presence	57.73	11.30		
Burnout in wards				
General medicine/Rehabilitation				
Absence	60.81	9.03	0.07	<i>ns</i>
Presence	55.35	10.19		
Critical care/Surgery				
Absence	60.35	8.18		
Presence	53.50	11.26		
Psychiatry				
Absence	67.86	12.97		
Presence	62.74	10.79		

a,b: when letters vary there is difference, the same letters indicate homogeneity.

For the personal accomplishment variable, mean scores were similar for the nurses working in the three kinds of wards.

**Table 4. Correlations Between the DMI and the MBI**

	Emotional exhaustion	Depersonalization	Personal accomplishment
TAO	.116	.187*	-.095
PRO	-.058	.088	-.013
PRN	-.123	-.197*	.101
TAS	.180*	.232†	-.160
REV	-.126	-.250†	.135

\**P* < .05.

†*P* < .01.

Table 3 shows results of two-way ANOVAs for each defense mechanism. The three wards and the presence/absence of burnout have been inserted as independent variables in the 3 × 2 ANOVA to examine the effects of each of the independent variables on the dependent variable and their interaction.

Nurses in general medicine/rehabilitation and critical care/surgery wards scored higher on PRO. Nurses working in psychiatric wards relied mostly on PRN. However, PRN was the defense mechanism most often used by the sample when the ward was not taken into consideration and when burnout was not present. Psychiatric nurses also relied on TAS when burnout was present and on REV. However, TAS was the most used in the sample when the ward was not taken into consideration and when burnout was not present.

Depersonalization was positively correlated with TAO and TAS and was negatively correlated with

**Table 5. Two-way ANOVA for BHS Scores**

	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>
Comparison between wards				
General medicine/Rehabilitation				
	5.06	2.90	0.22	<i>ns</i>
Critical care/Surgery				
	4.56	2.84		
Psychiatry				
	5.19	3.31		
Comparison for burnout				
Absence	5.08	3.12	0.05	<i>ns</i>
Presence	4.81	2.90		
Wards and burnout				
General medicine/Rehabilitation				
Absence	6.04	3.00	4.19	<.01
Presence	3.75	2.22		
Critical care/Surgery				
Absence	4.15	2.34		
Presence	5.06	3.37		
Psychiatry				
Absence	4.57	3.91		
Presence	5.57	2.92		

**Table 6. Correlations Between DMI, MBI, and BHS Scores**

	Total BHS
Emotional exhaustion	.380*
Depersonalization	.439*
Personal accomplishment	-.379*
TAO	-.037
PRO	-.083
PRN	-.180†
TAS	.306*
REV	-.033

\**P* < .01.

†*P* < .05.

PRN and REV (see Table 4). Emotional exhaustion was positively correlated with TAS.

Table 5 shows results of the two-way ANOVA for the BHS. In our sample, 16 nurses (13%) reported a total BHS score of 9 or higher, indicating that these individuals had a high suicide risk.

Table 6 shows the correlations between the variables; Table 7, the results of the stepwise multiple regression analysis to show which of these variables were the best predictors for the total BHS score. The best predictor for the total BHS score was depersonalization, followed by TAS and emotional exhaustion. A post hoc analysis found that these three variables explained 29% of the variance (19%, 7%, and 2%, respectively).

**DISCUSSION**

This study identified important and complex correlations between burnout indicators and type of employment in nurses, as well as correlations between burnout, some specific defense mechanisms, and hopelessness. In fact, some defense styles, such as PRN and REV, appear to be “protective” factors for burnout as they had a nega-

tive correlation with the depersonalization and emotional exhaustion subscales of the burnout scale. Nevertheless, psychiatric nurses in our sample, despite using the abovementioned defense mechanisms, had higher scores for emotional exhaustion and depersonalization as compared with the other nurses in our sample. It would appear that working in a specific type of ward has a greater impact on burnout than the use of a specific defense mechanism.

A similar picture emerges in the case of the TAO defense mechanism, which, in the absence of burnout, was used less. The PRO defense mechanism did not have a clear correlation with burnout; however, psychiatric nurses used this defense mechanism less often. Turning against the self had a positive correlation with emotional exhaustion and an interaction effect with the presence/absence of burnout and working in a specific ward. Specifically, in the critical care and surgery nurses and in psychiatric nurses, this defense mechanism was more common in those individuals who experienced burnout.

The three groups of nurses did not differ in their scores on the BHS. However, as already mentioned, depersonalization, TAS, and emotional exhaustion were the best predictors of the total score on the Hopelessness Scale, explaining 29% of the variance. Nurses working in general medicine/rehabilitation wards who had less burnout scored higher on the Hopelessness Scale than nurses from the other subgroups. On the other hand, for nurses working in the critical care/surgery and psychiatric wards, burnout did facilitate the emergence of hopelessness.

Beck et al. (1990) identified a scale cutoff score of 9 or higher, which identified 94% patients who

**Table 7. Results of the Stepwise Multiple Regression with Burnout and Defense Mechanisms as Predictors of Hopelessness Scores**

Predictors	Criteria: Total Hopelessness					Step
	<i>β</i> Std.	<i>t</i>	<i>P</i>	<i>sr</i>		
Depersonalization	.439	5.30	<.001	.439		1
Depersonalization	.415	5.20	<.001	.413		2
TAS	.269	3.38	<.001	.268		
Depersonalization	.305	3.22	<.002	.252		3
TAS	.269	3.42	<.001	.268		
Emotional exhaustion	.195	2.06	<.04	.161		
	<i>R</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> <i>CA</i>	<i>F</i>	<i>P</i>	Step
Depersonalization	.439	.192	.192	28.09	<.000	1
TAS	.514	.264	.072	11.42	<.001	2
Emotional exhaustion	.539	.290	.026	4.25	<.04	3

*R*<sup>2</sup>*CA*: square of semipartial coefficient of correlation for a given variable in the equation of a specific step.

eventually committed suicide. According to their study, the high-risk group identified by this cutoff score was 11 times more likely to commit suicide than the rest of the outpatients. The BHS thus may be used as a sensitive indicator of suicide potential. We can therefore hypothesize that individuals who score higher on the depersonalization and emotional exhaustion dimensions of burnout and who seem to rely on the TAS defense mechanism are individuals with an increased risk of committing suicide.

Cramer (1991) investigated the DMI using the Minnesota Multiphasic Personality Inventory and found a significant relationship between TAS and depression. It would appear that relying on the TAS defense mechanism may predispose an individual to depression and hopelessness. If this were found to be true, then the Freudian assumption, that suicide occurs when an individual has introjected a lost object and turns against the self with the hope of punishing the missing object, is confirmed (Freud, 1957). People experiencing burnout and who rely on the TAS defense mechanism might avoid direct outward challenges resulting from the difficulties of the work environment and develop self-loathing, leading to hopelessness and, in the worst case scenario, to suicide.

Suicidality among nurses has been well documented in the literature. Hawton and Vislisel (1999) reviewed the literature and identified major risk factors among these workers: the presence of mental disorders, substance abuse, smoking, stress in general, occupational stress, and access to lethal means. Depression in particular seems to be a very important risk factor for suicide in nurses (Beck & Srivastava, 1991; Goldberg, 1972; Haack, 1988; Skinner & Scott, 1993). It has also been reported that nurses who smoked 1–24 cigarettes per day had twice the risk of committing suicide in the 2 years following completion of a questionnaire than those who never smoked (Hemenway, Solnick, & Coldiz, 1993). The authors of that study suggested that smoking could serve as self-medication for depression. Our study shows that those nurses who are more prone to depressive features, who turn against the self and at the same time experience burnout, are also more prone to experience hopelessness. When such feelings reach serious proportions, suicide risk is tremendously increased.

Psychiatric nurses in our sample appeared to be at a greater risk of committing suicide as compared with the nurses from the other two groups. Among

the numerous branches of medicine, psychiatry has unique features and requires unique skills. Difficulties related to the work environment may undermine a positive approach with psychiatric patients (Melchior et al., 1996, 1997). Saarinen et al. (1999) recognized that difficulties in dealing with suicidal patients who have schizophrenia, together with personal problems, are major elements of disturbance in job performance. In particular, acceptance of patient suicide as a solution to problems and unconscious wishes that patients commit suicide are just a few of the difficulties with which psychiatric nurses deal during their work. Some Balint groups have been developed with the aim of helping doctors cope with the psychological aspect of their patients' problems—and their problems with their patients. The focus of the work was on the doctor–patient relationship: what it meant, how it could be used helpfully, and why it so often broke down, with the doctor and the patient failing to understand each other.

Our study has a number of limitations. First, the choice of the sample limits generalization of the results. Correlations, although often statistically significant, were weak, and suicide risk was only indirectly assessed. Because of the correlational nature of the data, no definitive statement can be made about causal relationships among the variables. The study did not take into consideration public versus private health institutions, which may differ considerably. Nurses working in private clinics might have a more comfortable work environment but at the same time might have managers who scrutinize their work. The opposite may be true for those working in public clinics. Nurses who agreed to take part in this study may have been those who were more distressed by their work and considered their participation to be a kind of counseling and a way seeking help, which may be a source of bias.

Future studies should investigate this field with larger samples and should address the issue of suicidality more directly.

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